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Service Sector Business Failure Trends in the U.S. Economy

Douglas P. Handler

I. Introduction

A "business failure" is a firm that has filed for bankruptcy, or that has ceased operations resulting in losses to creditors. Failures include businesses that have shut their doors after such actions as foreclosure or attachment, and businesses that are in receivership or have voluntarily compromised with creditors.

Business failures in the services areas of the economy comprise about three-fourths of all failures, a figure which is almost equal to the services share of the business population. Through the first nine months of 1990, overall business failures increased 14.5 percent over the same period in 1989—a sharp turnaround from the previous three-year trend. Service-sector failures were responsible for much of this reversal, increasing 18.9 percent. This spurt in failures was concentrated in the New England and Middle Atlantic states.

In general, studies of employment and output have shown that compared with the goods-producing areas of the economy, the service sector is relatively invulnerable to economic downturns. However, there is little evidence of this stability when looking at business failures. In five of the last six years, the percentage increase or decrease in service-sector failures has been greater than changes in failures among goods-producers.

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By region, this relationship is even more pronounced during times of economic stress. Although it is difficult to quantify differences in the pattern of business failures between the service and goods-producing sectors during times of relative prosperity in a region, further examination of service-sector failures by industry shows that there are sharp differences in failure patterns in the United States as a whole, and in specific troubled regions.

II. What Do Business Failures Mean?

The number of business failures is one of the best economic indicators of entrepreneurial conditions. An increase in failures signals stress in a particular region or industry, while a decrease indicates stability. When failures increase, a shake-out among marginal businesses is in progress. The roots of this shake-out may be either a slowdown from an earlier period of rapid economic growth, or the result of a genuine increase in economic stress in a region. In the former situation, the marginal firms that fail often are newer and competing for the same customer base. When a region is in genuine economic distress—not just experiencing a slowdown from strong growth—a proportion of all businesses becomes, to some extent, marginal.

A business failure should not be confused with a discontinuance, which occurs when a firm closes its doors for any reason, including a lack of profits, but pays its creditors in full. Discontinuances outnumber failures by about three to one, although this ratio fluctuates a great deal over time. It is difficult to count discontinuances contemporaneously because firms are not required to notify any public or private agency that they have closed. To distinguish accurately between inactive businesses and those that have actually closed may take years.

III. Relative Performance of Service-Sector Business Failures

Tables 1A, 1B and 1C document the history of business failures since 1985 for the goods and services areas of the economy. Because of a computational change, comparable data on failures are available only since 1984. As a result, an analysis of year-to-year changes must begin in 1985. All data for 1990 involve the first nine months of the year.

Table 1A
Business Failures in the United States by Sector

Year	Region	% Change in Failures			Services Share	Services Share	Failure Rate Per 10,000 Firms	
		Goods[1]	Services[2]	Total[3]	of Failures	of All Businesses	Goods	Services
1985	Total U.S.	4.2%	10.8%	9.6%	72.3%	76.3%	124	99
1986	Total U.S.	4.9	10.4	6.9	74.4	76.1	121	109
1987	Total U.S.	-0.1	0.9	-0.7	74.6	76.3	109	98
1988	Total U.S.	-13.6	-4.2	-5.6	76.5	77.2	96	98
1989	Total U.S.	-6.8	-15.8	-12.9	74.6	78.8	83[5]	74[5]
1990[4]	Total U.S.	12.6	18.9	14.5	74.8	77.7	n.a.	n.a.

Source: Economic Analysis Dept., Dun & Bradstreet Corporation

Table 1A shows overall changes in business failures in the goods and services sectors. During the three years in which overall failures increased (1985, 1986 and 1990), the number of service-sector failures increased proportionally more than failures in the goods-producing areas of the economy. In addition, since 1985, the share of service-sector failures has remained around 75 percent—slightly less than the proportion of service-sector firms in the total business population. Thus, when failures increase nationally, the service sector takes the brunt of the shock, yet the sector remains relatively healthy. This can be seen more clearly in the failure-rate statistics. Failure rates (failures per 10,000 firms) were lower for services firms than for goods-producers in every year except 1988, which was a particularly good year for manufacturing and construction firms.

In contrast, during years when total business failures declined (1987, 1988 and 1989), it is unclear which sector absorbs the brunt of the economic stress since the comparative health of all areas of the economy improved.

This greater tendency for service-sector failures to rise during difficult economic periods is shown more vividly in Table 1B, where the five regions with the greatest increases in failures in a particular year are shown. In every case, service-sector failures increased more sharply than failures among goods-producing firms.

It is interesting to note the diverse sources of the regional economic downturns in Table 1B. Weakness in agriculture prices hurt the West North Central and West South Central farm belt regions in 1985. The West South Central states received an additional blow in 1986 with the collapse in oil prices. In 1990, failures once again increased, primarily in two regions: New England and the Middle Atlantic states. In New England, weakness in many key manufacturing sectors and massive declines in construction and housing activity brought economic growth to a halt. Throughout much of the Middle Atlantic region, these same factors also applied to some extent, but the decline of the financial sector hit this area especially hard. The roots of each sector's problems are diverse, but the end result was that this distress quickly migrated to the service sector.

Table 1B
Greatest Increases in Failures
Best 5 Regional Business Failure Performances

		% Change in Failures		
Year	Region	Goods[1]	Services[2]	Total[3]
1990[4]	New England	118.2%	226.7%	192.8%
1990[4]	Middle Atlantic	62.0	64.2	64.6
1986	West South Central	35.2	78.9	59.9
1985	West North Central	45.1	52.5	49.7
1985	West South Central	19.6	58.7	47.5

Source: Economic Analysis Dept., Dun & Bradstreet Corporation

Failures among service-sector firms during periods of economic stress emanates from the secondary effects of the initial shock. No matter what the root cause of a region's weakness, it is evident that the result is a loss of jobs and income. Hence, wholesale and retail sales are especially affected by a shrinking economic base, as are business and personal support services.

When a region's economic malaise disappears, however, there is no discernable difference between changes in business failures in the service and goods-producing sectors . The five regions with the largest annual decreases in failures are shown in Table 1C, and in these cases, there is no clear indication which area of the economy fared best.

Table 1C
Greatest Decreases In Failures
Best 5 Regional Business Failure Performances

Year	Region	% Change in Failures Goods[1]	Services[2]	Total[3]
1989	Mountain	-19.5%	-29.3%	-27.1%
1989	West North Central	-36.8	-17.8	-23.7
1988	West North Central	-37.5	-15.6	-23.3
1989	West South Central	-13.4	-25.8	-21.7
1989	Pacific	-2.7	-23.3	-17.5

Source: Economic Analysis Dept., Dun & Bradstreet Corporation

IV. Service-Sector Business Failures by Industry

Tables 2A and 2B detail the service-sector failures by major industry for the areas shown in Tables 1A and 1B. From both tables it is apparent that the "other" category of services (SIC 70-89) exhibits more volatility than the remaining sectors. When service-sector failures rose during the 1985-87 period, failures in this category rose far faster. During the 1988-89 period, when service-sector failures fell, failures of "other" services fell even faster in 1989—a one-year lag after the 1988 turning point. Failures among all services rose during the first nine months of 1990—another turning point, so failures among "other" services firms may increase significantly in 1991.

Some of this increase in "other" service failures is due to the extraordinary growth of new types of business that has taken place in recent years. This category's "not elsewhere classified" component most likely has become a catchall for firms that are not explicitly retail or financial firms, for example. In many cases, business information reporters or the firms themselves are required to make difficult interpretations classifying a firm's role using SIC codes.

Table 2A
Service Sector Business Failures by Industry –Total U.S.

	1985	1986	1987	1988	1989	1990[4]
All Services	10.8%	10.4%	0.9%	-4.2%	-15.8%	18.9%
Regulated Industries						
% Change	10.1	0.6	-12.3	-6.5	-3.7	20.1
Share	6.3	5.7	5.0	4.8	5.5	5.7
Wholesale						
% Change	-1.4	-0.4	-11.3	2.7	-20.7	13.4
Share	12.0	10.8	9.6	10.3	9.7	9.8
Retail						
% Change	-2.7	0.2	-10.1	-6.1	-6.0	12.5
Share	33.5	30.3	27.1	26.5	29.6	29.4
Fin/Insur/Real Estate						
% Change	11.1	3.6	-8.9	1.1	9.1	31.1
Share	6.6	6.2	5.6	6.0	7.6	8.7
"Other"						
% Change	30.0	25.8	13.8	-4.7	-23.6	8.5
Share	41.5	45.9	52.8	52.4	47.6	46.4

Source: Economic Analysis Dept., Dun & Bradstreet Corporation

Table 2B
Service Sector Business Failures By Industry - Worst 5 Regions

	New England 1990[4]	Middle Atlantic 1990[4]	West South Central 1986	West North Central 1985	West South Central 1985
All Services	226.7%	64.2%	78.9%	52.5%	58.7%
Regulated Industries					
% Change	43.8	77.8	22.4	61.3	7.7
Share	2.7	7.1	4.5	8.6	6.3
Wholesale					
% Change	42.1	74.1	36.0	16.9	6.4
Share	6.4	11.9	9.6	12.8	12.7
Retail					
% Change	129.9	55.4	43.8	21.5	32.8
Share	25.2	36.6	25.9	36.8	32.0
Fin/Insur/Real Estate					
% Change	206.9	131.4	36.4	65.9	132.9
Share	5.3	7.2	7.5	5.0	10.2
"Other"					
% Change	426.0	59.0	42.2	29.7	131.3
Share	60.3	37.3	52.5	36.9	38.

Source: Economic Analysis Dept., Dun & Bradstreet Corporation

Table 2B paints much the same picture as Table 2A for the five poorest annual regional performances. In four of the five regions listed, the increase in failures of "other" service firms was greater than the increase for all services. The one exception was the Middle Atlantic region in 1990, which experienced a disproportionate increase in retail failures.

V. Conclusion

Since 1985, business failures among service-sector firms comprised slightly less than three-fourths of all failures. Year-to-year changes in business failures among service-sector firms were more volatile than in goods-producing areas of the economy when overall failures were rising. This trend was especially pronounced on a regional basis. However, the service sector's share of failures was almost always just less than the share of the U.S.business population. This is indicative of the relative health of the sector, and is borne out by the comparatively favorable failure-rate statistics. When the economy-wide level of business failures falls, both the services and goods-producing sectors usually benefit.

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[1] Agriculture, Mining, Construction, Manufacturing

[2] Transportation, Communications, Utilities; Wholesale Trade; Retail Trade; Finance, Insurance, Real Estate; "Other Services" (SIC 7000-8999)

[3] Includes nonclassifiable establishments

[4] First nine months of 1990 vs. first nine months 1989

[5] Estimated

n.a. - "not available"

SERVICES ECONOMIC HIGHLIGHTS

CSI

Allen Sinai
Chief Economist, Boston Company Economic Advisors, Inc.

Services At a Glance—Recession Arrives!

- ***Services GNP***—or the service component of expenditures by consumers and government and the net services export balance—rose at an annual rate of 3.1% in the third quarter, compared to a 1.8% rate in the second quarter. The higher growth in services GNP came mainly from service exports, which increased 16.4% at an annualized rate. Net service exports accounted for 1.4 percentage points of the total 3.1% increase in services GNP.

- ***Service Sector Leading Index***—which leads activity by about six months—showed a 0.5% increase in November, but did not reverse the 1.1% drop in October. The annual growth rate of the coincident service index, reflecting current economic conditions for the service sector, rose an anemic 0.1%, after declining 0.6% in the month earlier. The net of the two months thus was negative.

- ***Services Employment*** declined 21,000 persons in December. The job losses occured in retail trade (-48,000), business services (-17,000), wholesale trade (-14,000) and finance,insurance and real estate (-3,000). The declines were partly offset by increases in health care (+56,000) and public utilities (+11,000).

- ***Personal Consumption Expenditures on Services*** increased 3% in the third quarter, following a 5.1% jump in the second. In more recent months, however, spending on services has weakened considerably. In November, services expenditures fell an annualized 1.6% from the previous month, following a 0.4% decline in October.

- ***Prices of Consumer Services*** continue to rise, with December prices up 5.7% from year-earlier levels and up 0.2% from November. Services price inflation shows no sign of easing.

- The ***Services Stock Price Index*** rose 4.1% in November but was down 15.1% from a year earlier.

- ***True Services Exports*** increased by $1.4 billion in the third quarter, bringing the total for the quarter to a record-high $30.8 billion, surpassing the previous high of $29.4 billion in the quarter before.

- ***Plant and Equipment Expenditures by Services Industries***, in current dollars, were off 0.1% in the third quarter, following a 1.2% drop in the second quarter—a capital spending downturn, in real terms.

- ***Corporate Profits of Service Industries*** showed a small 2.2% increase in the third quarter from its level a year earlier, following a 19.9% surge in the previous quarter. Profits for all industries plunged 13.4%. Thus, services company profits are fading, though still far outperforming goods.

Bottom Line: The Service Economy has entered a recession, the first since the early 1980s. Retail and wholesale trade, transportation, business services, finance, insurance and real estate and state and local governments are taking the services economy down. Health care, public utilities and federal government activity still are expanding. Exports of services remain a source of strength.

The Service Economy refers to the total economy, in which services activities are the dominant factor. The Service Economy comprises 68% of real production GNP and 76% of employment. Major segments are: Communications; Transportation; Public Utilities; Finance, Insurance and Real Estate; Wholesale and Retail Trade; Government; and "Service," a diverse category including Business Services, Personal Services, Professional and Health Services.

Chart 1
Real Gross National Product
(Total and by Sector, Indices, 1985:3 = 1.0)

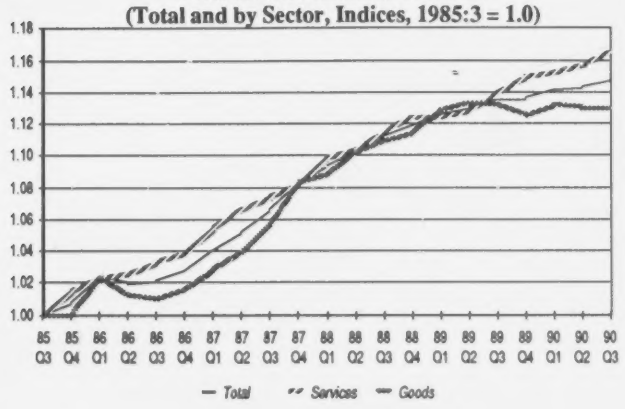


Chart 2
Leading Economic Indicator Indices
(Total Economy and Service Sector, Six-Month Smoothed, Percent Change at Annual Rates)

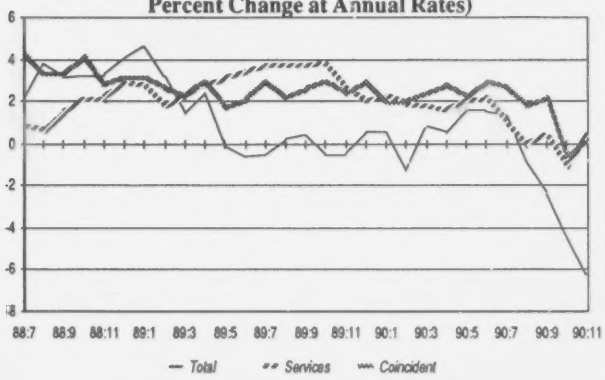
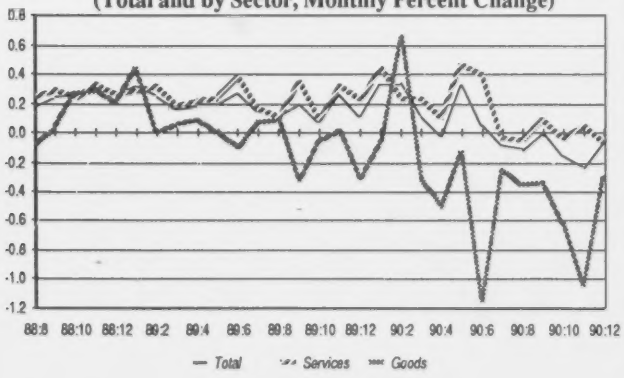


Chart 3
Employment Growth
(Total and by Sector, Monthly Percent Change)



Services GNP Probably Falling

Third-quarter services GNP—measured on an expenditure basis—increased 3.1%, following slower growth rates of 1.8% and 0.8% in the previous two quarters. The goods component, including construction, inched up 0.1%, as the construction sector continued to deteriorate, dropping 8.4%. But, more recent monthly services indicators, especially employment, suggest a fourth quarter drop.

Services Indices Pointing Toward Recession

The leading and coincident indices for the service sector bounced back a bit in November, up 0.5% and 0.1%, respectively, compared to declines of 1.1% and 0.6% in October. December likely will show a decline. The leading indicator for the whole economy continued its downward trend, falling 6.4%. Although weaker, the service sector still is cushioning the deep recession in the goods-producing sectors of the economy.

The Service Sector Indices are produced by the Center for International Business Cycle Research, Columbia University.

Services Employment Declines

Service-sector employment in December totalled 85.6 million persons, down 21,000 from its level in the previous month. Employment in the goods sector continued to decline, down 55,000 to 24.5 million persons. Job losses are now widespread, reflecting the weakness in the economy. In 1990 as a whole, employment in service-producing industries rose 2.2 million, compared to a 2.7 million gain in 1989, while goods-sector employment fell 317,000. Services sector employment now seems to be in a recession mode.

Chart 4
Expenditure on Plant and Equipment
(Total and by Sector, Indices, 1985:3 = 1.0)

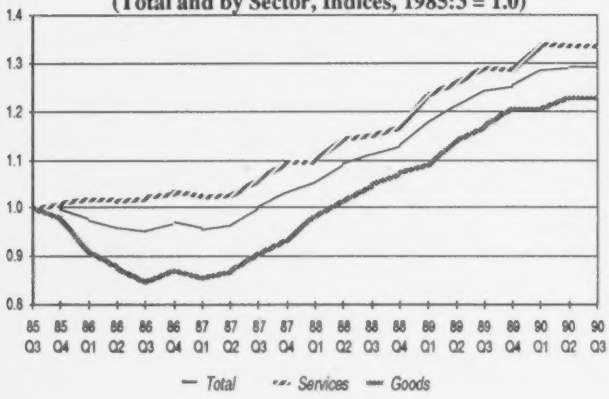


Chart 5
True Services Trade Balance
(Billions of Dollars)

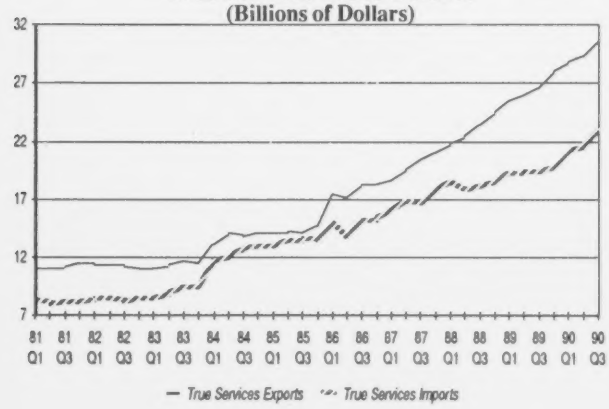
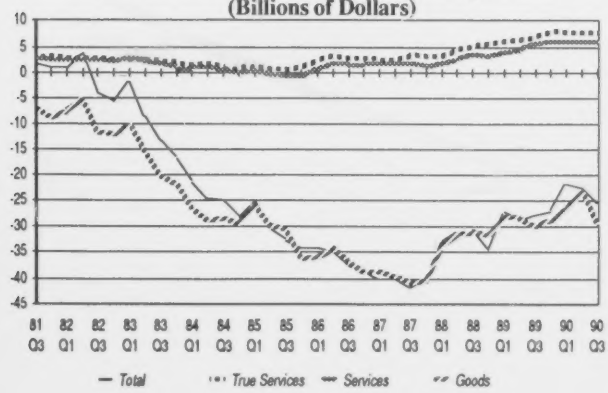


Chart 6
Current Account Balance and Components
(Billions of Dollars)



Services Capital Spending Declines

Service industries decreased current dollar expenditures on plant and equipment (P&E) in the third quarter by 0.1%, following a 1.2% decline in the second quarter. Capital outlays by goods industries fell 1%. Overall investment in P&E by both goods and services was off 0.5% in the third quarter—the first quarter-to-quarter decline since the first three months of 1987. There are few incentives to increase services capital outlays.

"True Services"* Trade Surplus Remains High

At $7.9 billion, the true services trade surplus in the third quarter was $93 million above its level in the second quarter, due mainly to higher services exports than imports. Both exports and imports reached record levels. At $30.8 billion, true services exports were up from $29.4 billion in the second three months of the year, while true services imports amounted to $22.9 billion, up from $21.6 billion. No end is in sight to the strength in services trade.

* *True services trade refers to private nonfinancial trade flows such as travel, tourism, education, passenger fares, financial, and fees and royalties.*

Current Account Deficit Widens

The current account deficit widened to $25.6 billion in the third quarter, from $22.5 billion previously. The wider deficit can be mainly attributed to a sharp $6.6 billion deterioration in the goods trade deficit, to $29.8 billion. Merchandise imports reached a record of $125.9 billion, as higher oil prices pushed up the import bill. Merchandise exports were essentially unchanged at $96.2 billion. Services trade is a big source of help to a very negative current account deficit.

Chart 7
Real Personal Consumption Expenditures
(Quarterly Percent Change, Annual Rates)

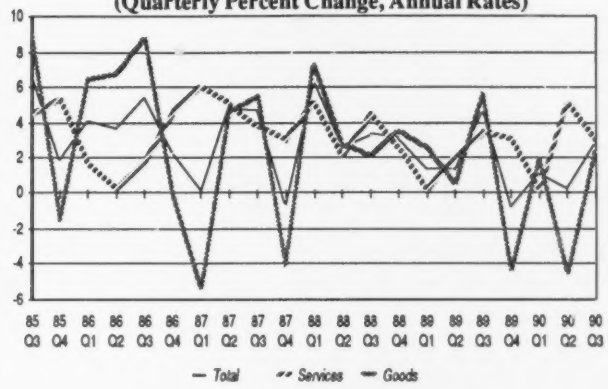


Chart 8
Consumer Price Indices
(Percent Change, Year Ago)

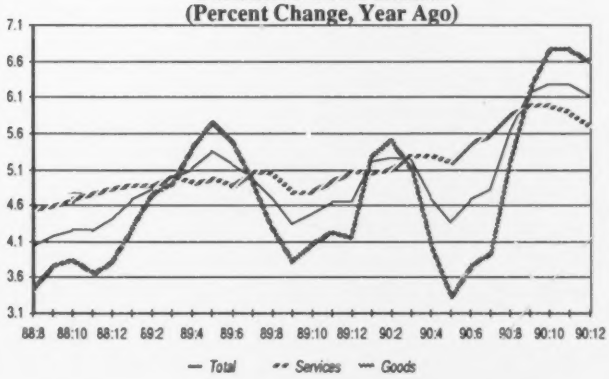
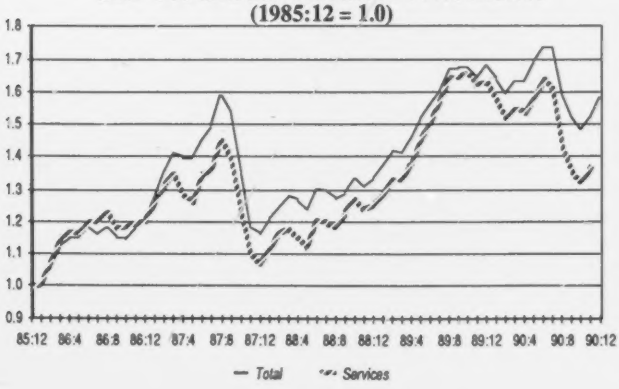


Chart 9
S&P 500 and Services Stock Price Indices
(1985:12 = 1.0)



Spending on Services Slows

Personal consumption expenditures on services slowed to an inflation-adjusted 3% growth rate in the third quarter, compared to a 5.1% surge in the previous quarter. Spending on goods rose 2.4%, swinging from a 4.4% drop in the second quarter. Overall third-quarter expenditures jumped 2.7%, compared to a mere 0.2% rise in the prior three-month period. A much slower pace of spending on services can be expected in the fourth quarter.

Services Inflation Still High

The 5.7% year-over-year increase in services inflation in December followed a 5.9% rise in November. Reflecting higher oil prices, goods-sector inflation is currently at an annual rate of 6.6%, compared to 3.9% in July. The overall consumer price index rose 6.1%, after increasing 6.3% in the previous month. For 1990 as a whole, the rate of inflation for the total economy stood at 5.4%, with services-sector inflation at 5.5% and the goods-sector at 5.2%. Services inflation is probably topping-out.

Stock Prices Bounce Back

The S&P 500 price index rose 4.3% in December from its month-earlier level, but was down 5.7% year-over-year. The service industries stock price index for November—the latest available month—increased 4.1% from October, ending four consecutive months of declines. Compared to November 1989, the services stock price index fell 15.1%. A "bear market" in services stock prices is in place.

The Services Stock Price Index is based on S&P indices for 13 service industries and is compiled by the Center for International Business Cycle Research.

THE CASE FOR LIBERALIZED TRADE

by Allen Sinai and Zaharo Sofianou

After four years of negotiations, multilateral trade talks under the General Agreement on Tariffs and Trade (GATT) have come to an inconclusive standstill. Efforts to save the "Uruguay Round" are still underway, but it is unlikely that the final agreement will be as ambitious or far-reaching as originally envisioned. The breakdown of the talks cannot be ascribed to one issue or to one country. However, it is generally felt that it is in the best economic interest of all countries to resume trade negotiations.

The Uruguay Round is the eighth Round of trade negotiations since the GATT was formed in 1947. It is the most ambitious to date in terms of the number of countries involved (107), and the number of issues to be covered. For the first time the trade talks attempted to include investment measures, agriculture and the growing area of services trade.

In the years following its creation, successive GATT Rounds succeeded in reducing the average level of tariffs from 40 percent at the end of the Second World War, to about 12 percent at the end of the late 1960s. Tariff reductions continued in the 1970s and 1980s to an average of 5 percent today. The GATT's success in reducing tariffs has been counteracted to some degree, however, by the gradual imposition of non-tariff barriers to trade which are used with increasing frequency to protect a number of domestic industries.

Non-tariff barriers are used by developed and developing countries alike and include the use of global and bilateral import quotas, restrictive licensing, voluntary export restraints, embargoes, state trading practices, domestic content regulation, subsidies, quality control and other domestically imposed standards.

In some cases, the impact of non-tariff barriers is so great they make tariff comparisons meaningless. A study in 1986 by Hufbauer, Berliner and Elliot computed the tariff-equivalent of non-tariff restrictions on several products.

Table 1 shows that restrictions on imports of dairy products into the United States resulted in an effective 80 percent tariff on these products, despite the fact that the published tariff rate is only 8.4 percent. For sugar, another highly protected product, the tariff-equivalent is 30 percent, rather than the 0.5 percent published tariff on sugar. A similar table on non-tariff barriers imposed by the European Community shows products that face high tariff-equivalent restrictions. The tariff on textiles, for example, is only 10.2 percent, but trade restrictions limiting the imported quantity result

Table 1
The Non-Tariff Barrier Factor in the United States
(Percent)

Product	Actual Average Tariff	Tariff Equivalent of All Border Protection
Automobiles	2.7	11.0
Motorcycles	4.4	30.0
Color TV	5.0	15.0
CB Radios	6.0	21.0
Textiles and Clothing	22.0	30.0
Non-Rubber Footwear	8.8	18.5
Carbon and Alloy Steel	5.5	30.0
Specialty Steels	10.5	25.0
Bolts and Nuts	5.0	15.0
Sugar	0.5	30.0
Dairy Products	8.4	80.0
Meat	3.0	14.0
Peanuts	3.0	28.0
Mushrooms	13.3	20.0

Sources: Hufbauer, Berliner and Elliot (1986), Center for International Studies

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Table 2
Importance of Non-Tariff Barriers to Trade in the EC
(Percent)

Sector	EC Tariff (Simple Average)	EC Tariff Equivalent of Border Protection (Tariff and Non-Tariff)
Agriculture	13.7	19.0
Mining	1.4	10.7
Processed Food	6.2	111.4
Textiles, Clothing, and Footwear	10.2	50.0
Motor Vehicles, Metal Products, and Machinery	4.9	9.1
Other Manufacture	5.6	11.2
All Sectors	6.6	39.0

Source: Center for International Studies

in an equivalent tariff of 50 percent.

In all cases of trade barriers to foreign goods or services, the consumer suffers by paying higher prices for both imported and domestic items. While estimates vary, it is safe to say that American consumers pay at least $65 billion a year in the form of higher prices from trade distortions. In the well-advertised case of textiles, where trade is highly distorted not so much by tariffs but by quotas, studies put the total current cost to American consumers at $25 billion a year, and if the current policy continues that cost could rise to $85 billion by the year 2000.

What is particularly interesting to note is that while import restrictions in either tariffs or quotas act as a form of tax on domestic consumers, this tax is regressive—i.e., it falls more heavily on lower-income individuals. The reason for this is that most of the import duties are imposed on the more competitive low-cost imports purchased by lower-income groups. A study by the New York Federal Reserve in 1985 estimates that trade restrictions are equivalent to a 23 percent income surcharge on people earning less that $10,000 a year, and a 3 percent tax on individuals earning more than $60,000 annually.

The Benefits of Open Markets

Ideally, unrestricted open markets should result in the greatest economic gain for all concerned. Consumers benefit because they purchase goods and services at the most competitive prices, and efficient producers are able to increase production that results in greater profits through exports.

On the whole, open markets mean a higher standard of living, and greater prosperity and economic growth. This is achieved, in part, through competitive pricing that leaves consumers with more disposable income. This extra income can either be spent on goods and services, which increases the standard and quality of living in the present, or it can be saved and invested in capital goods, increasing the standard of living through higher production in the future. At the same time, the competitive process weeds out inefficient producers, leaving a country's resources (of labor, capital and managers) to move to the most efficient industries. Efficient production promotes increased output and greater exports.

Arguments for Protectionism—National Security

While from a purely economic point of view open markets benefit a country economically, trade distorting measures often receive support domestically for political reasons. The agriculture sector, for example, has traditionally been protected on grounds of national security. Yet, protecting the agriculture sector is very costly, particularly in terms of subsidies. According to the OECD, among its 24 member countries, subsidies reached $245 billion in 1989. Of that, the cost to EEC residents was $93 billion, to the Japanese $68 billion, and to Americans $46 billion. The remaining ten OECD countries spent a total of $38 billion.

The overall result of agricultural export subsidies is to protect the domestic agricultural sector from foreign competition, often from small countries which cannot afford to subsidize their own agricultural sectors in return. By doing so, industrialized countries like the U.S., the EEC and Japan are preventing less developed agricultural countries from earning foreign exchange through their exports. In return, they are unable to buy goods and services from the industrialized countries.

As a result, agricultural subsidies and other trade distorting measures not only act to hinder international trade in their respective sectors, they also harm the service sector and other efficient unprotected industrial sectors of developed countries which would have benefitted from higher exports to agricultural and labor-intensive countries. These developing countries cannot generate the foreign exchange needed to buy more services and capital goods from the U.S. and other developed economies.

Infant Industries

Another frequently cited reason for the imposition of barriers to trade, particularly among developing countries, is the protection of new industries. The premise is that "infant" industries must be given time to develop before facing foreign competition. Insulating these industries from market conditions for too long, however, can result in inefficient practices that impede indefinitely their ability to compete internationally.

Dumping

The practice of selling exported goods or services below cost in order to increase market share is called "dumping". True cases of "dumping" are very difficult to prove, although claims of dumping have increased greatly over the past decade. A recent and widely publicized case was brought by the United States against Japanese semiconductors. Claims by the U.S. that Japanese companies were dumping the dynamic random access semiconductor memories (drams) led to an agreement between the two governments which forced Japanese producers to charge higher prices for drams in the U.S. than in Japan. The agreement led to a quadrupling of drams prices in the United States, which benefited U.S. and Japanese drams manufacturers, while injuring the U.S. computer industry and driving up prices paid by American consumers.

As in the case of infant industries, domestic businesses protected under the pretext of dumping have little incentive to improve productivity, and consumers are forced to pay higher prices for goods or services. Studies show that the amount of U.S. trade affected by non-tariff barriers more than doubled between 1980 and 1984 with the consumer-tax equivalent up nearly 65 percent to over $50 billion during the same period. Either consumers are forced to buy more expensive domestically produced products, or they must pay higher prices for foreign imports.

Political Pressure Creates Trade Barriers

Special interest groups often put pressure on politicians to protect specific industries. A frequently heard argument suggests that unfair foreign competition will drive domestic industries out of business resulting in job loss and an increased demand on social services. This argument is particularly effective during a slowdown in economic growth or during recession.

While open markets result in the lowest prices and the most efficient allocation of resources, it is not without some cost to the domestic economy. Although usually a transient or short-term cost, it is part of the competitive process. During economic slowdowns this adjustment process naturally takes longer, and if the efficient replacement is foreign competition rather than a domestic producer, the transition may meet with more opposition.

Conclusions

Both in theory and in practice, it has been demonstrated that open markets are beneficial to a nation's economy. Consumers are able to purchase goods and services at the lowest prices and resources of labor and capital are used in the most productive industries.

While international trade in services is relatively new, it is growing rapidly. GATT estimates for 1990 show that international trade in services increased 9 percent in 1990 (compared with a 7.5 percent increase for trade in goods) to $680 billion—about one fifth of total world trade. Despite its high rate of growth, there are still no international rules governing trade in services, and few statistics that measure the impact liberalized services trade will have on the world economy.

It is expected that the economic benefits for services trade will be just as large as those that can be achieved from free merchandise trade. In both services and goods trade the end-result of free-trade is the same: output increases as does export potential. It is the process of competition that drives inefficient producers out of the market and that in the long run, benefits the world economy.

THE COALITION OF SERVICE INDUSTRIES was formed in 1982 to increase public awareness of the expanding role of the service sector in the U.S. economy. One of the priorities of the Coalition is to improve the adequacy of statistical programs in their measurement and analysis of the service sector.

THE SERVICE ECONOMY is a product of the CSI Task Force on Data Collection and Statistical Improvement. Comments or suggestions should be directed to Maria Eli of CSI, at 202/467-3054.

Table 1
Summary of the Service Economy
(Monthly Indicators)

	1990:7	1990:8	1990:9	1990:10	1990:11	1990:12	1986	1987	1988	1989	1990
Total Employment—Millions	110.7	110.6	110.6	110.4	110.2	110.1	99.5	102.2	105.5	108.4	110.3
Services	85.6	85.6	85.7	85.7	85.7	85.6	75.0	77.5	80.4	83.1	85.3
Goods	25.1	25.0	24.9	24.8	24.5	24.5	24.6	24.7	25.2	25.3	25.0
Total Wages and Salaries—											
Billions of Dollars	2727.1	2728.3	2747.2	2731.9	2728.0	NA	2094.8	2249.7	2431.1	2573.3	NA
Services	1991.6	1993.9	2011.2	2001.5	2008.4	NA	1469.2	1599.7	1734.7	1852.7	NA
Goods	735.5	734.4	736.0	730.4	719.6	NA	625.6	650.0	696.4	720.6	NA
Total Compensation											
%Change, Year-Over-Year	5.4	5.8	5.9	4.6	4.8	NA	6.0	7.4	8.1	5.8	NA
Services	6.7	7.5	7.5	6.1	6.6	NA	7.5	8.9	8.4	6.8	NA
Goods	2.1	1.5	1.8	0.8	0.1	NA	2.7	3.9	7.1	3.5	NA
Consumer Price Index—All Urban,											
%Change, Year-Over-Year	4.8	5.6	6.2	6.3	6.3	6.1	1.9	3.7	4.1	4.8	5.4
Services	5.6	5.9	6.0	6.0	5.9	5.7	5.0	4.1	4.6	4.9	5.5
Goods	3.9	5.2	6.2	6.8	6.8	6.6	-1.0	3.2	3.5	4.7	5.2
Services Leading Indicator Index (%)*	1.2	-0.1	0.4	-1.1	0.5	NA	4.9	2.3	0.2	3.0	NA
Leading Economic Indicator Index—Total (%)*	1.4	-1.0	-2.5	-4.6	-6.4	NA	6.6	6.0	1.9	1.5	NA
Services Coincident Indicator Index (%)*	2.3	1.9	2.3	-0.6	0.1	NA	3.3	3.6	3.8	2.7	NA
Service Industries Stock Price Index	118.5	106.0	100.1	98.0	102.0	NA	86.3	95.6	88.3	111.5	NA
S&P 500 Stock Price Index	360.0	330.8	315.4	307.1	315.3	328.8	236.3	286.8	265.8	322.8	334.6

** Growth rate expressed in six-month smoothed percent changes at annual rate.*

Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Center for International Business Cycle Research and The Boston Company Economic Advisors, Inc.

Table 2
Summary of the Service Economy
(Percent Change, SAAR, Except Where Indicated)

	1989:2	1989:3	1989:4	1990:1	1990:2	1990:3	1985	1986	1987	1988	1989
Gross National Product	1.6	1.7	0.3	1.7	0.4	1.4	3.4	2.7	3.4	4.5	2.5
Services	1.3	4.5	3.4	0.8	1.8	3.1	3.6	3.2	3.4	4.0	2.4
Goods and Construction	1.9	-0.6	-2.3	2.5	-0.8	0.1	3.1	2.3	3.4	4.8	2.6
Construction	-8.5	-1.4	0.7	12.5	-10.4	-8.4	3.7	1.5	-0.7	-0.7	-2.2
GNP—Product Measure	—	—	—	—	—	—	3.4	2.7	3.4	4.5	2.5
Services	—	—	—	—	—	—	4.1	3.8	3.9	NA	NA
Goods	—	—	—	—	—	—	3.9	1.2	3.2	NA	NA
Manufacturing	—	—	—	—	—	—	3.8	2.3	4.3	NA	NA
Agri./Mining/Construction	—	—	—	—	—	—	4.0	-0.8	0.9	NA	NA
Consumption Expenditures	1.3	4.6	-0.8	1.1	0.2	2.7	4.7	3.9	2.8	3.6	1.9
Services	2.1	3.5	3.1	0.1	5.1	3.0	4.7	2.7	4.0	3.8	2.3
Goods	0.6	5.7	-4.4	2.1	-4.4	2.4	4.7	5.0	1.7	3.4	1.5
Plant and Equipment Expenditures—											
Current Dollars	12.5	10.7	3.6	10.3	2.3	-0.5	9.9	-2.4	2.5	11.0	11.4
Services	8.3	10.4	-1.7	17.6	-1.2	-0.1	10.4	3.4	2.9	8.3	11.3
Goods	20.0	11.1	12.9	-0.6	8.3	-1.0	9.2	-11.1	1.7	15.7	11.6
Corporate Profits—Current Dollars											
%Change, Year-Over-Year	-7.7	14.0	-26.8	28.7	33.2	-13.4	-5.8	2.0	11.9	12.8	-4.6
Services	20.3	-24.5	-4.3	25.3	19.9	2.2	-2.4	21.5	-2.9	6.2	-0.6
Goods	-11.6	4.1	-50.7	34.3	56.7	-33.0	-10.3	-25.4	45.7	22.8	-9.7

Sources: Bureau of Economic Analysis, Bureau of Labor Statistics and The Boston Company Economic Advisors, Inc.

Table 3
Summary of the Service Economy
(Billions of 1982 Dollars, SAAR, Except Where Indicated)

	1989:2	1989:3	1989:4	1990:1	1990:2	1990:3	1985	1986	1987	1988	1989
Gross National Product	4112.2	4129.7	4133.2	4150.6	4155.1	4170.0	3618.7	3717.9	3845.3	4016.8	4117.7
Services	1902.5	1923.5	1939.7	1943.7	1952.5	1967.3	1684.3	1738.8	1798.1	1870.5	1915.6
Goods and Construction	2209.6	2206.3	2193.5	2206.9	2202.5	2202.8	1934.4	1979.1	2047.2	2146.4	2202.1
Construction	371.1	369.8	370.4	381.5	371.2	363.1	380.8	386.4	383.8	381.1	372.7
GNP—Product Measure *	—	—	—	—	—	—	3618.7	3717.9	3845.3	4016.8	4117.7
Services	—	—	—	—	—	—	2407.8	2498.9	2595.4	NA	NA
Goods	—	—	—	—	—	—	1176.1	1190.6	1228.9	NA	NA
Manufacturing	—	—	—	—	—	—	786.8	804.6	839.5	NA	NA
Agri./Mining/Construction	—	—	—	—	—	—	389.3	386.0	389.4	NA	NA
Consumption Expenditures	2645.3	2675.3	2669.9	2677.3	2678.8	2696.8	2354.8	2446.4	2515.7	2606.5	2656.8
Services	1302.5	1313.8	1323.8	1324.2	1340.8	1350.8	1152.3	1183.8	1231.6	1278.9	1309.0
Goods	1342.8	1361.5	1346.1	1353.1	1338.0	1346.0	1202.5	1262.6	1284.1	1327.6	1347.8
Plant and Equipment Expenditures—											
Current Dollars	502.1	515.0	519.6	532.4	535.5	534.9	409.3	399.3	409.2	454.2	506.0
Services	311.9	319.7	318.3	331.5	330.5	330.4	244.7	253.0	260.4	282.1	313.9
Goods	190.2	195.2	201.3	200.9	205.0	204.5	164.6	146.3	148.8	172.1	192.1
Corporate Profits—											
Current Dollars	228.5	236.1	218.4	232.6	249.9	241.1	191.4	195.2	218.5	246.5	235.2
Services	146.1	136.2	134.7	142.5	149.1	149.9	111.8	135.8	131.8	140.0	139.1
Goods	98.9	99.9	83.7	90.1	100.8	91.2	79.7	59.5	86.7	106.5	96.1
Current Account Balance—											
Quarterly Rates	-28.6	-27.6	-26.7	-21.7	-22.5	-25.6	-122.3	-145.4	-162.3	-128.9	-110.0
Services Balance	4.5	5.7	6.1	6.0	6.0	5.8	-0.9	4.7	6.4	11.5	20.5
True Services Balance **	6.6	7.2	8.3	7.7	7.8	7.9	4.1	10.7	11.3	18.3	28.2
Exports	26.0	26.7	28.1	28.9	29.4	30.8	58.3	70.6	79.5	92.9	106.2
Imports	-19.4	-19.5	-19.9	-21.2	-21.6	-22.9	-54.2	-59.9	-68.2	-74.6	-78.0
Merchandise Trade Balance	-28.2	-29.8	-28.7	-26.3	-23.1	-29.8	-122.1	-145.1	-159.5	-127.0	-114.9

* *Under revision.*

** *True Services Balance is the balance on Service exports and imports excluding receipts and payments on investments and government transactions.*

Sources: Bureau of Economic Analysis and The Boston Company Economic Advisors, Inc.

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Census Bureau Programs to Improve Service Data As a Part of The Presidential Economic Statistics Initiative

James M. Aanestad

The Presidential Economic Statistics Initiative is a 5 year, $230 million effort to improve economic statistics. A significant portion of this effort will go to improve service industry statistics. The Initiative is the result of multiagency recommendations organized by an Economic Policy Council (EPC) Working Group on the Quality of Economic Statistics, chaired by Dr. Michael J. Boskin, Chairman of the President's Council of Economic Advisors.

The EPC Working Group evaluated the proposed 1992 statistical improvements and new program suggestions to directly improve interagency coordination and determine how prioritization and acceleration of timetables would aid in improving the quality and quantity of service/economic data. The service group emphasized programs of the major statistical agencies of the Census Bureau, the Bureau of Economic Analysis (BEA) and the Bureau of Labor Statistics (BLS). Selected programs of the National Agricultural Statistics Service and the National Science Foundation are also involved. The 1992 budget request for the five agencies is $29.5 million. The Administration is proposing a real increase in the budgets of the statistical agencies of almost $230 million between 1992 and 1996 to improve economic statistics, of which service programs are a specific and integral part.

Mr. Aanestad is the Assistant Division Chief for Current Transportation and Service Programs in the Business Division at the Census Bureau.

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Background

Services are generally defined to include the entire non-goods producing sector of the economy, representing about 70 percent of the Gross National Product. The service sector is the fastest growing component of the nation's economy. Technological change, as well as government policies promoting deregulation are reshaping the service sector, often creating new industries that did not exist a few years ago. Dramatic changes are taking place in the types of services offered, the way they are delivered, and the prices we pay for them.

Government statistical programs have not kept pace in describing this growth in the service sector. In many instances, they have actually declined as many data collection programs that met both regulatory and general-purpose statistical requirements were eliminated or significantly reduced. At the same time, the complexity of company organizational structures and the number of services offered to businesses and consumers have increased. About 20 years ago, business establishments tended to offer one major service, making it relatively easy to correctly measure that industry. With increased growth and competition, establishments began to offer multiple services that require broader data collection to accurately measure these changing conditions. As more of these data were needed to understand the impact of growth, new technologies, organizational structure changes, and the internationalization of the economy—less data were being collected. It is not surprising that the federal statistical community, plus other government and private industry data users, highly applaud the efforts of Dr. Boskin in advocating this significant expansion of economic statistics programs.

The Decentralized Data Collection System

There is a unique interrelationship between the major data collection agencies that are responsible for providing measures of total output, prices and productivity. The Census Bureau initiates the process by providing broad industry level input and output measures. The Bureau of Labor Statistics then develops price indexes which the Bureau of Economic Analysis uses to deflate the raw data it receives from the Census Bureau to produce estimates of real output, which in turn are used by BLS to produce estimates of productivity. Estimates for each data collection program must be developed and designed using common data definitions, and take into consideration the highly integrated nature of the system of producer and user agencies. This effort also promotes coordination in identifying what priority industries to cover, and how much detailed data to collect. We want to balance agency data needs with respondent company's ability to report reliable information from existing records in a reasonable time period.

Broad Components of the Presidential Initiatives

The Working Group developed a package of priority recommendations for broadly improving economic statistics. In November 1989, the President approved these recommendations that are grouped into seven broad areas:

(1) Modernizing the National and International Economic Accounts to improve their accuracy, breadth, and international comparability, including improvements to the coverage and detail of international flows of funds and services;

(2) Increasing the coverage of the service sector which accounts for approximately 70 percent of total U S. output;

(3) Separating quality and inflation changes in price data;

(4) Improving the establishment payroll and household surveys;

(5) Tracking changes across industries in our dynamic economy;

(6) Preparing for future statistical workforce needs;

(7) Sharing of statistical data.

Although data users interested in service industry changes will benefit from all of these initiatives, I want to describe the Census Bureau program planned for area two, increasing statistical coverage of the service sector.

Census Bureau Expansion of Service Sector Coverage

The Census Bureau began expanding its coverage of the service sector in the mid-1980's and has included new industry coverage in our Service Annual Survey, plus new surveys on Motor Freight Transportation and Warehousing, and the 1990 Annual Survey of Communication Services. The 1987 Services Census was expanded to include selected transportation and medical services and we are well into a $25 million expansion of the 1992 Quinquennial Census of Service Industries. Universe establishment level data will be obtained for over 100 industries in the communications, finance, insurance, real estate, and utilities areas, plus additional selected industries to complete coverage of the transportation sector.

The five major Census Bureau service programs designated for initiation or improvement in 1992 as a part of the Presidential initiative include:

1. Expanded Coverage of the Service Annual Survey

This Initiative will enable a significant expansion of both the number of industries covered, and the detailed data items to measure components of total revenues. Presently, data for most collected industries are limited to a single measure of total receipts. This single measure of total dollar volume masks the true level of industry output where multiple services are provided to businesses and consumers that are not separately identified. Expanded collection is planned for industries such as computer and data processing services, management and consulting services, equipment and automotive rental and leasing, amusement and recreation services, and offices of health practitioners. The survey will also be expanded to publish total receipts for 130 service industries rather than the 85 we currently publish. Many of the new industries were previously covered only in the 5 year census, and the publication will include those recently created by the 1987 Standard Industrial Classification (SIC) revision. Publication is scheduled for November/December 1992.

2. Small Company Financial Data and Corporate Financial Data

This initiative represents two expansions to the Quarterly Financial Report (QTR) program. The program presents up-to-date aggregate statistics on the financial position of U.S. corporations. Based upon an extensive sample survey, the report presents estimated statements of income and retained earnings, balance sheets, and related financial and operating ratios for the domestic operations of all manufacturing corporations with assets over $50 million. The small company financial data will expand the program sample to enable publication of small company measures of corporate profits, debt, and investment, especially for wholesale and retail trade - two sectors heavily populated by small companies. The corporate financial data plan will add service industry coverage to the QFR publication. With the addition of industries in the business services area, we will publish levels of profitability, indebtedness, and investment, which will address serious data gaps. Publication of the new areas is scheduled for December 1993.

3. Purchased Services by Manufacturers

The more robust GNP estimates for manufacturing have become the subject of considerable criticism compared to the rapid growth of service industries not being equitably measured by existing economic surveys. In an effort to cut costs, many manufacturing firms have begun to purchase legal, bookkeeping, and many other services from outside suppliers rather than performing these activities with in-house employees. Also, services have been bundled with the sale of manufactured products. Only limited data on these purchased services by manufacturers are collected by the Census Bureau and the true representation of services is distorted since they are counted within the manufacturing firm's SIC designation. These more detailed annual data are needed to fully understand the conditions about economic and structural change, both for manufacturing and services.

4. Emerging Service Industries

Emerging and growth service activities are identified and measured only in the 5 year Censuses. Typically they are lost in "catch all" broadly defined classifications for these infrequent collection programs. In this process, and due to a lag of reclassifying, a significant number of the U.S. growth activities are not assigned a unique industry classification, therefore, their true function and influence on the economy are lost.

The growth areas of the service sector are diverse. Most are represented by a large number of relatively small entities, with the obvious lack of tangible products. It is constantly changing in response to the demands of the market place. We will publish annual estimates of sub-four-digit activity for emerging growth service industries and incorporate this information into the surveys and censuses which measure the economy and into future revisions of the SIC system. This will provide a more systematic basis for developing new four-digit SIC classifications. Activities to be considered presently include personal services, day-care, travel, and the many health related areas that are rapidly growing and changing.

5. **Improvements to Advance Retail Sales Estimates**

The Advance Monthly Retail Sales Survey (MARTS) provides estimates for the United States, including broad kinds-of-business classification. These advance sales estimates are based on very early reporting by a small subsample of the larger monthly retail survey panel. The information is a principle economic indicator and receives wide media attention in addition to it's many uses by governmental policy makers. This initiative will improve the overall quality of the MARTS, including reducing nonsampling problems such as distortions caused by survey nonresponses, very early collection and processing requirements, nonstandard (4 and 5 week periods vs. calendar month) reporting patterns of survey respondents, and reducing or eliminating various other sources of nonsampling error.

The planned Census Bureau improvements to the service sector data base for 1992 are part of a coordinated, interagency effort to address priority data user needs, where reliable data are not available from any other sources. Future year improvements will include new annual surveys in the changing transportation, finance, and insurance areas, along with continued expansion of industry coverage in the Service Annual Survey.

Efforts to improve federal statistics covering the service sector have been a cornerstone of CSI's policy initiatives for several years. The Coalition of Service Industries is encouraged by the recommendations made by the Economic Policy Council Working Group, chaired by Dr. Michael Boskin. CSI urges the Congress to approve budget appropriations which will permit significant improvements in the accuracy, relevance and timeliness of federal economic statistics.

SERVICES ECONOMIC HIGHLIGHTS

CSI

Allen Sinai
Chief Economist, Boston Company Economic Advisors, Inc.

The Service Economy At a Glance—Downturn In Progress

- ***Services GNP Measured by Expenditures***—continued to expand in the fourth quarter at a 2.8% rate, while a 5.4% decline in the goods sector pushed overall GNP growth down by 1.6%. The key sector contributing to the expansion was services exports. Excluding the net service trade balance, services GNP increased 1.4% in the fourth quarter. Further slippping, perhaps a negative, can be expected for the first quarter.

- The ***Services Sector Leading Index***—which leads activity by about six months—was up 3.1% in February, after being unchanged in January. The coincident index, reflecting current economic conditions, showed a mere 0.1% increase, reversing a 0.1% decline in the month earlier. The surge in the leading indicator occurred mainly in the stock market component, and thus may not be signalling a coming upturn.

- ***Services Employment*** declined a total of 201,000 in February and March. The cumulative two-month job losses occurred in retail trade (-161,000), transportation and public utilities (-39,000), wholesale trade (-49,000), and finance, insurance and real estate (-8,000). The losses were partly offset by increases in health care (+71,000) and government (+44,000).

- ***Personal Consumption Expenditures on Services*** is slowing. Fourth-quarter service spending was reported up a modest 1.8%, compared to rates of 3% and 5.1% in the previous two quarters. More recent monthly statistics suggest that services outlays will weaken further. In January, spending on services was off an annualized 1.8%; in February, up a mere 0.4%. Increasing joblessness and weak income growth suggest services spending will be cautious and can be expected to diminish in coming quarters.

- ***Prices of Consumer Services*** continue to rise, with February prices up 6.3% year-over-year and up 0.5% from January. Services price inflation appears to be topping out.

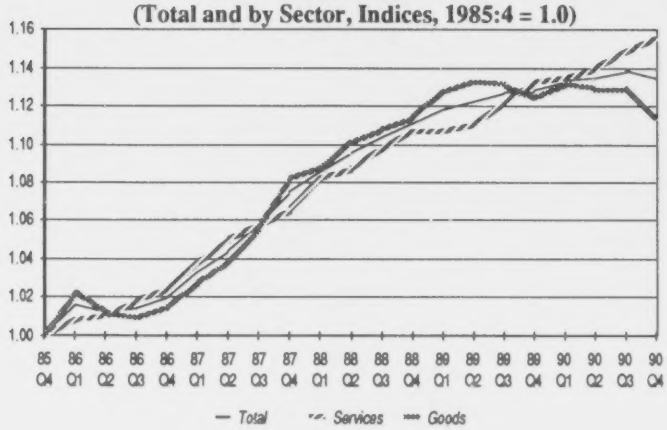
- The ***Services Stock Price Index*** surged 11.5% in February compared with January, and was up 5.6% over the twelve months ending in February. The year-over-year gain ended six consecutive months of declines.

- Private ***Services Exports*** increased by $1.1 billion in the fourth quarter, bringing the total to a record-high $31.3 billion, surpassing the previous record of $30.2 billion in the quarter before. The surplus on net private services exports increased to $8.3 billion in the quarter from $7.2 billion in the third quarter. The U.S. remains the world leader in private services trade.

Bottom Line: Recession has spilled into the service sector from the manufacturing and construction downturn, general cutbacks by consumers, and a profits squeeze on business. Although the recession in services likely will end as the general downturn eases, no upturn is likely before Labor Day.

The Service Economy refers to the total economy, in which services activities are the dominant factor. The Service Economy comprises 68% of real production GNP and 76% of employment. Major segments are: Communications; Transportation; Public Utilities; Finance, Insurance and Real Estate; Wholesale and Retail Trade; Government; and "Service," a diverse category including Business Services, Personal Services, Professional and Health Services.

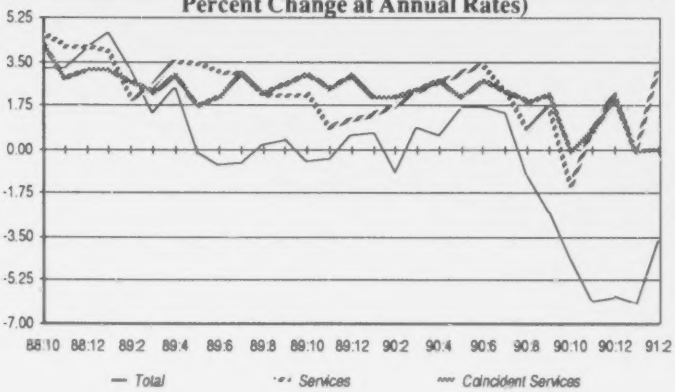
Chart 1
Real Gross National Product
(Total and by Sector, Indices, 1985:4 = 1.0)



Services GNP Growth Softens—But Still Rising

Fourth-quarter services GNP—measured on the expenditure basis—increased 2.8%, slowing from a 3.1% pace in the previous quarter. The goods component, including construction, dropped 5.4%, as the construction sector continues to be hit hard by the recession, off 12%. Overall, GNP declined 1.6% in the fourth quarter. Average growth in services GNP has been 2.9% since 1987.

Chart 2
Leading Economic Indicator Indices
(Total Economy and Service Sector, Six-Month Smoothed, Percent Change at Annual Rates)

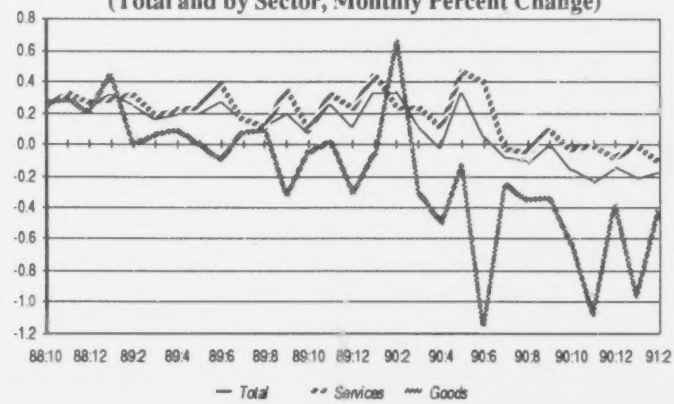


Services Leading Indices Rise Sharply

The leading index for the service sector increased sharply, up 3.1% in February, following an unchanged growth rate in January. The rise was attributed to a surge in stock prices and a small gain in the average workweek. The coincident index did not increase as rapidly, up a mere 0.1% in February, but swung from a 0.1% decline in the month earlier. The leading indicator for the whole economy maintained its downward trend, falling 3.7%.

The Service Sector Indices are produced by the Center for International Business Cycle Research, Columbia University.

Chart 3
Employment Growth
(Total and by Sector, Monthly Percent Change)



Services Employment Weakens—Key Recession Sign

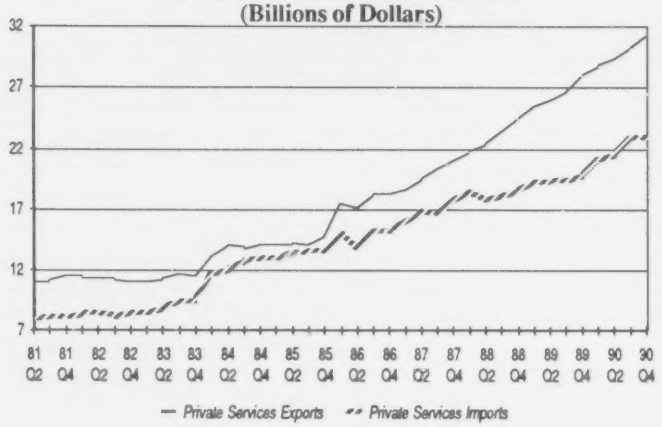
Service-sector employment declined 40,000 in March, following a 161,000 decline in February. Employment in the goods sector continued to decline, down 166,000 in March and 130,000 in February. The declines in both sectors reflect the widespread economic weakness. At 109.3 million, total employment fell 206,000, marking its ninth consecutive month of deterioration.

Chart 4
Wages and Salaries
(Percent Change, Year Ago)

Services Wages and Salaries—Falling

Total wage and salary disbursements in service industries were up marginally in February from January, but not much higher than the December level. After adjustment for inflation, services wages and salaries are declining. In the goods sector, total wage disbursements declined for the second month in a row, both on a monthly basis, and compared to year-earlier levels.

Chart 5
Private Services Trade Balance
(Billions of Dollars)

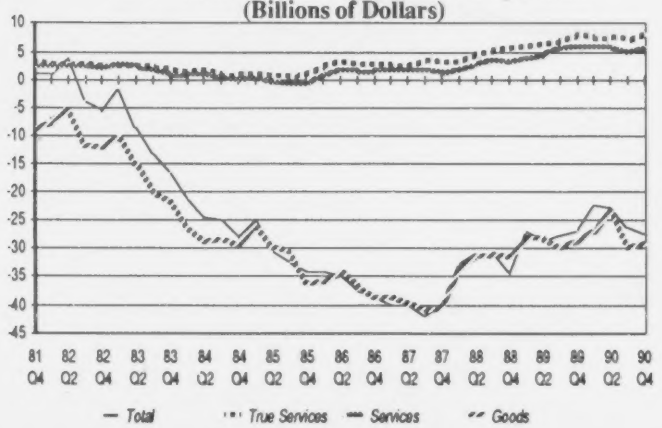


Private Services Surplus Posts Record High

Private services trade remains a bright spot in the U.S. economy, posting a large $8.3 billion surplus in the fourth quarter. Private services exports reached a new high at $31.3 billion in the last three months of 1990, up from its previous record $30.2 billion in the third quarter. At $23 billion, services imports remained unchanged from the fourth quarter. The balance on private services exports has increased steadily for the past five years, from $2.4 billion in 1985 to $31.6 billion in 1990, as has been the services surplus.

* *Private services trade refers to private nonfinancial trade flows such as travel, tourism, education, passenger fares, financial, and fees and royalties.*

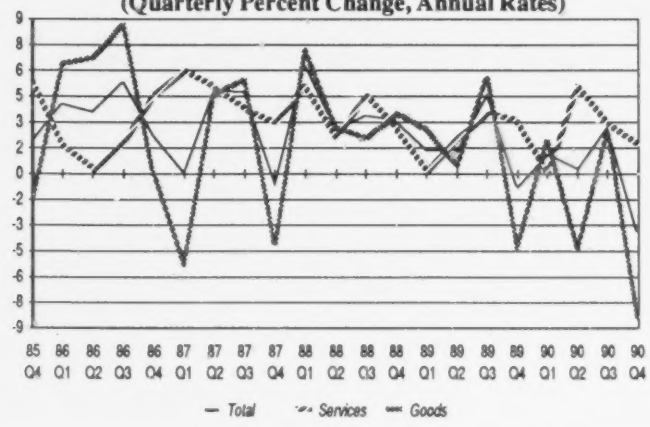
Chart 6
Current Account Balance and Components
(Billions of Dollars)



Current Account Deficit Widens

The current account deficit widened to $27.8 billion in the fourth quarter, from $26.5 billion in the third. The wider trade deficit can be attributed to a sharp increase in net unilateral transfers, to $9.1 billion from $4.1 billion. Both the merchandise and services balances showed improvement. At $28.9 billion, the goods trade deficit narrowed from $29.8 billion, and the services surplus increased to $5.9 billion, from $5.1 billion. The investment income balance increased to $4.3 billion from $2.3 billion.

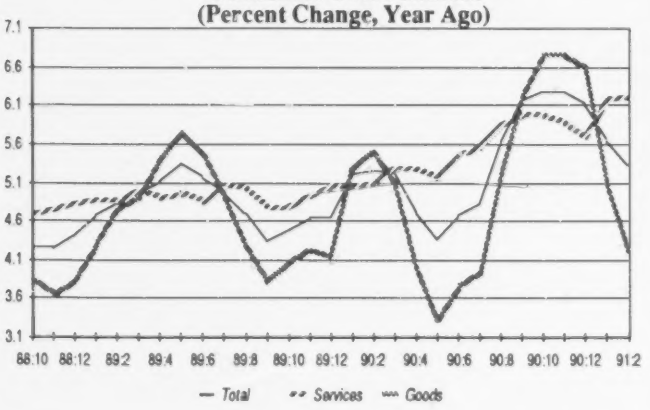
Chart 7
Real Personal Consumption Expenditures
(Quarterly Percent Change, Annual Rates)



Spending on Services Weaker

Personal consumption expenditures on services slowed to an inflation-adjusted 1.8% in the last quarter of 1990, compared to rates of 3% and 5.1% in the previous two periods. Spending on goods dropped 8.4%, pushing total spending down 3.4%. Real services outlays for January were down 0.4%, suggesting that spending on services may decline in the first quarter of this year. The Service Economy cannot revive until consumer spending on services picks up.

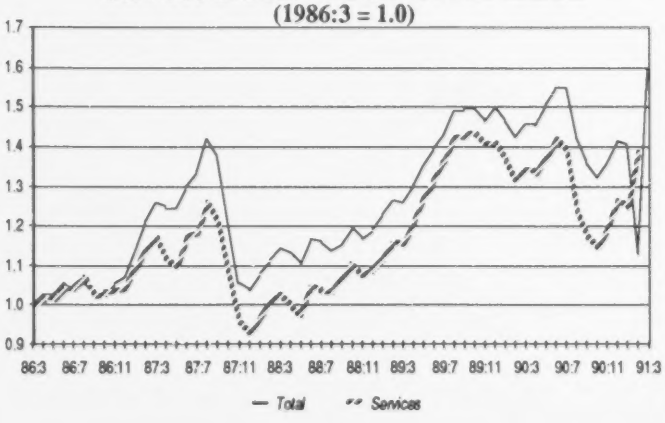
Chart 8
Consumer Price Indices
(Percent Change, Year Ago)



Services Inflation Continues to Rise

The 6.2% year-over-year increase in services inflation for February was the highest since October 1982, when it stood at 6.9%. Given the weakness in the services sector, services inflation has probably topped out. The decline in world oil prices resulted in softer price gains in the goods sector. At 4.2%, goods-sector inflation was the lowest since July and slowed significantly from increases of 5.1% and 6.6% in the previous two months. Overall prices were up 5.3%, following an annual rate of 5.7% in January.

Chart 9
S&P 500 and Services Stock Price Indices
(1986:3 = 1.0)



Services Stock Prices Soar

The S&P 500 stock price index rose 2.8% in March, following a strong 11.3% surge in the previous month. Services stock prices soared 11.5% in February—the latest available month—ending six consecutive months of declines. On a year-over-year measure, the S&P index was up 10%, while the services stock price index was up 5.6%.

The Services Stock Price Index is based on S&P indices for 13 service industries and is compiled by the Center for International Business Cycle Research.

U.S. SERVICE EXPORTS: "WHO BUYS WHAT"?

by Allen Sinai and Zaharo Sofianou

In recent years, U.S. service exports have been star performers in the U.S. economy, with growth rates of 11.6 percent and 13.4 percent in 1989 and 1990, respectively. In 1990, total private service exports were reported at $119.8 billion, up 70 percent from $70.6 billion in 1986. At the same time, while service imports also increased, they did so at a slower rate, leaving the surplus on services trade higher. The increase in private service imports for the five-year period from 1986 to 1990 was 47 percent. As a result, the U.S. surplus on private service trade grew to $31.6 billion, almost double the $17.6 billion reported in 1988, and three times the $10.7 billion surplus in1986.

If greater liberalization of services trade is achieved, either through the Uruguay Round multilateral negotiations, or through the proposed North American Free Trade Agreement, service exports have the potential to grow even larger in years to come. Near-term, a boost to U.S. service exports will come as a result of new business opportunities with the Middle East—and particularly Kuwait—a region which traditionally did not rely heavily on the United States for its imports.

In brief, the following analysis looks at U.S. *private* service exports—total and by each of the five broad categories of travel, passenger fares, other private services, fees and royalties and other transportation. "Who buys what " is described and analyzed. Government exports and imports are not included in this study.

Geographic Breakdown of Service Exports and Imports—"Who" Buys?

Table 1 shows U.S. private service exports and imports by region and country.

The largest single importer of U.S. services is Japan, which in 1989 accounted for $13.8 billion of the total $106.2 billion of U.S. service exports, followed by Canada and the United Kingdom, with $10.2 billion and $9.7 billion, respectively. The services export surplus against these countries has been growing, particularly with Japan, as a result of a greater acceptance of the use of foreign services by foreign countries, as well as the increasing affordability of travel to the United States for Japanese and Europeans.

For 1989, the U.S. service export surplus with Japan was $9.79 billion, up from $3.63 billion in 1988—by far the largest service surplus with any country (Table 2). Although country figures for all of 1990 are not available yet, for the first three quarters of the year, U.S. service exports to Japan increased 7.1 percent at an annual rate, while the surplus increased to $10.6 billion (Tables 1 and 2). After Japan, the second largest service export surplus is with the whole of Europe, reported at $8.9 billion in 1989. The U.S. service export surplus with Canada ranks third, at $4.7 billion in 1989 and at an estimated $5.2 billion in 1990.

Which Services Account for the Greatest Exports?

Although service exports are somewhat more difficult to define than exports from the goods sector, they can be defined as a service activity carried out by a U.S. company or resident and sold to a foreign company or individual in return for foreign exchange. The service activity can take place either in a foreign country or within the United States.

Allen Sinai is Chief Economist and Zaharo Sofianou, Senior Economist, of The Boston Company Economic Advisors, Inc.

Table 3 lists the five main private service export and import areas. The largest service export is tourism, which in 1990 accounted for $39.3 billion of the total $119.8 billion in private service exports. A category labelled "other private services" accounted for $31.9 billion of service exports in 1990, up from $22.2 billion in 1986. This includes a number of service exports, such as financial, insurance, education, accounting, computer services and other private business services. Other private services is not only the second largest and one of the most rapidly growing areas, it is also where the United States has the biggest trade surplus—$17.1 billion in 1990.

Other transportation, the activity of transporting U.S. merchandise to other countries, is the third largest service export area, with $22 billion of exports in 1990. However, a higher volume of merchandise imports than merchandise exports also results in higher transport costs, leaving the U.S. with a deficit in this area. Receipts from royalties and other related fees is the fourth largest export category, at $14.8 billion. A disproportionately larger volume of exports than imports has resulted in a large surplus—$12.9 billion in 1990. At $11.8 billion in 1990, passenger fares, which are related to the volume of tourists, is the smallest of the five broad private service export categories.

Table 1
U.S. Private Services Exports to and Imports from Selected Countries and Regions
(Billions of Dollars, BOP Basis)

	1986	1987	1988	1989	1990
Exports:					
All Countries	70.6	79.5	92.9	106.2	119.8
Canada	7.7	8.8	9.7	10.2	12.7
Europe	22.6	27.0	32.1	31.5	42.8
Western Europe	22.3	26.7	34.7	36.8	41.9
European Communities (12)	18.6	22.5	26.4	30.6	34.8
Belgium-Luxembourg	0.9	0.9	1.0	1.3	—
France	2.4	3.0	3.3	4.1	—
Germany, FDR	3.6	4.5	5.1	5.4	—
Italy	1.8	2.1	2.4	2.5	—
Netherlands	1.7	1.9	2.2	2.7	—
United Kingdom	5.7	7.3	8.6	10.7	11.6
Other	2.5	2.7	3.6	4.0	—
Other Western Europe	3.7	4.2	5.3	6.2	7.1
Eastern Europe	0.3	0.3	0.4	0.6	0.9
Latin America & Other Western Hemisphere	13.0	13.4	14.8	16.7	19.1
Mexico	3.4	3.5	4.0	5.2	—
Venezuela	0.9	0.8	0.9	1.0	—
Other	8.8	9.2	10.2	10.6	—
Other Countries in Asia & Africa	24.2	26.9	32.2	37.3	20.3
Australia	2.2	1.8	2.2	2.7	3.1
Japan	9.1	11.7	14.1	16.9	18.1
Other	12.9	13.4	15.9	17.7	-0.9
Imports:					
All Countries	59.9	68.2	74.6	78.0	88.1
Canada	4.6	5.0	6.4	5.5	7.5
Europe	21.8	24.9	27.3	22.6	37.2
Western Europe	21.5	24.4	26.8	27.9	36.4
European Communities (12)	18.3	20.8	22.8	23.9	31.2
Belgium-Luxembourg	0.5	0.5	0.5	0.7	—
France	1.7	2.0	2.4	2.7	—
Germany, FDR	3.6	4.4	4.8	4.9	—
Italy	2.1	2.4	2.7	2.8	—
Netherlands	0.9	1.1	1.2	1.5	—
United Kingdom	6.8	7.8	6.9	8.2	11.0
Other	2.6	2.7	3.1	3.1	—
Other Western Europe	3.2	3.6	4.0	4.0	5.2
Eastern Europe	0.3	0.5	0.5	0.5	0.7
Latin America & Other Western Hemisphere	14.2	16.0	17.0	18.5	18.8
Mexico	5.3	6.0	6.8	7.8	—
Venezuela	0.5	0.5	0.6	0.6	—
Other	8.6	9.6	9.8	9.9	—
Other Countries in Asia & Africa	17.4	20.5	21.5	22.4	15.0
Australia	0.9	1.5	1.6	1.6	1.7
Japan	5.5	6.4	7.0	7.1	7.5
Other	9.0	12.6	12.9	13.8	5.7

Sources: The Boston Company Economic Advisors, Inc. and Bureau of Economic Analysis.

Tourism

The largest U.S. service export is tourism, and the earnings are generated within the United States. Foreign exchange earned from tourism amounted to $39.3 billion in 1990, or 30 percent of

Table 2
U.S. Bilateral Services Trade Balances for Selected Countries and Areas
(Billions of Dollars, BOP Basis)

	1986	1987	1988	1989	1990
All Countries	10.7	11.3	18.3	28.2	31.7
Canada	3.1	3.7	3.4	4.7	5.2
Europe	0.8	2.2	4.9	8.9	5.6
Western Europe	0.8	2.3	7.9	8.8	5.5
European Communities (12)	0.3	1.6	3.6	6.7	3.6
Belgium-Luxembourg	0.4	0.4	0.5	0.6	—
France	0.7	0.9	0.9	1.3	—
Germany, FDR	0.0	0.2	0.4	0.5	—
Italy	-0.3	-0.3	-0.3	-0.2	—
Netherlands	0.8	0.9	1.0	1.2	—
United Kingdom	-1.2	-0.6	1.8	2.5	0.6
Other	-0.1	0.1	0.5	0.9	—
Other Western Europe	0.5	0.7	1.3	1.8	1.9
Eastern Europe	0.0	-0.1	-0.1	0.1	0.1
Latin America & Other Western Hemisphere	-1.2	-2.6	-2.2	-1.8	0.4
Mexico	-1.9	-2.5	-2.8	-2.7	—
Venezuela	0.4	0.3	0.3	0.5	—
Other	0.2	-0.4	0.4	0.7	—
Other Countries in Asia & Africa	6.8	6.4	10.6	14.9	5.4
Australia	1.2	0.3	0.7	1.1	1.3
Japan	3.6	5.3	7.0	9.8	10.6
Other	4.0	0.8	2.9	4.0	-6.6

Sources: The Boston Company Economic Advisors, Inc. and Bureau of Economic Analysis.

total private service earnings. By comparison, in 1990 U.S. exports of agricultural goods were reported at $40.3 billion, only $1 billion more than earnings from tourism.

The decline in the value of the dollar since 1985 has helped growth in tourism, which has increased 122 percent in five years. Since 1985, the rate of growth of earnings from tourism has been higher than that of U.S. tourist expenditure abroad, resulting in a decline in the deficit between 1985 and 1989, with a small $879 million surplus emerging in 1990. In 1985, a year when the U.S. dollar reached a peak, the deficit on tourism earnings stood at $7.5 billion. By 1989, the deficit was progressively reduced to $545 million. Prospects for 1991 are generally good, with the surplus in this area likely to grow.

While the overall tourism balance was negative prior to 1990, the balance with individual countries has varied. Specifically, Japanese tourists spend more in the United States than U.S. tourists spend in Japan, leaving the U.S. with a large bilateral surplus. In 1989, the latest year of available data, Japanese tourists spent $6.6 billion—the largest by far of any country—while U.S. tourists spent

Table 3
U.S. Services Trade
(Billions of Dollars, BOP Basis)

	Exports					Imports					Balance				
	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990
Private Services	70.6	79.5	92.9	106.2	119.8	59.9	68.2	74.6	78.0	88.1	10.7	11.3	18.3	28.2	31.7
Travel	20.3	23.4	28.9	34.4	39.3	26.7	30.0	33.1	35.0	38.4	-6.5	-6.7	-4.2	-0.5	0.9
Passenger Fares	5.5	6.9	8.8	10.1	11.8	6.7	7.4	7.9	8.5	9.5	-1.2	-0.5	0.8	1.6	2.3
Other Transportation	15.5	17.0	18.9	20.4	22.0	16.7	18.1	19.7	20.8	23.5	-1.3	-1.1	-0.7	-0.4	-1.5
Royalties and License Fees	7.3	9.1	10.9	11.8	14.8	1.1	1.4	2.1	2.2	1.9	6.2	7.7	8.8	9.6	12.9
Other Private Services	22.2	23.0	24.3	29.5	31.5	8.7	11.4	11.4	11.5	14.6	13.4	11.6	12.9	18.0	16.9
Affiliated Services, Net	3.0	2.2	2.9	4.4	4.6	-1.3	-0.6	-0.7	-0.6	-0.3	4.3	2.8	3.6	5.0	4.9
U.S. Parents'/Affiliates' Receipts	5.4	5.1	6.2	8.1	8.6	2.8	2.7	3.0	3.5	3.7	2.6	2.4	3.1	4.6	4.8
U.S. Parents'/Affiliates' Payments	2.4	2.9	3.3	3.7	4.0	1.5	2.1	2.3	2.9	3.4	0.8	0.8	1.0	0.8	0.6
Unaffiliated Services	19.2	20.8	21.5	25.0	26.9	10.0	12.0	12.1	12.1	15.0	9.1	8.8	9.4	13.0	12.0
Education	3.5	3.8	4.1	4.6	5.0	0.5	0.5	0.6	0.6	0.7	3.0	3.3	3.6	4.0	4.3
Financial Services	3.3	3.7	3.8	5.0	4.8	1.8	2.1	1.7	2.0	2.3	1.5	1.7	2.2	3.0	2.4
Insurance	2.0	2.3	1.6	1.3	1.7	2.2	3.2	2.8	0.7	2.4	-0.2	-0.9	-1.2	0.6	-0.7
Telecommunications	1.8	2.1	2.4	2.7	3.1	3.3	3.7	4.3	5.4	6.2	-1.4	-1.6	-1.9	-2.7	-3.1
Business, Professional, & Technical	4.4	4.3	4.8	6.1	6.6	1.3	1.4	1.6	2.0	2.1	3.1	2.8	3.1	4.2	4.6
Other Unaffiliated Services	4.1	4.6	4.8	5.3	5.7	1.1	1.1	1.2	1.3	1.2	3.1	3.4	3.6	4.0	4.5

Source: The Boston Company Economic Advisors, Inc. and the Bureau of Economic Analysis.

CSI

Table 4
U.S. Services Trade—Travel
(Billions of Dollars, BOP Basis)

	Exports					Imports					Balance				
	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990
All Countries	20.3	23.4	28.9	34.4	39.3	26.7	30.0	33.1	35.0	38.4	-6.5	-6.7	-4.2	-0.5	0.9
Canada	2.7	3.3	4.0	4.9	6.1	3.0	2.9	3.2	3.4	3.9	-0.3	0.4	0.8	1.5	2.2
Western Europe	5.7	7.5	9.6	10.6	12.0	9.1	10.0	11.1	11.5	15.3	-3.4	-2.5	-1.5	-0.9	-3.3
France	0.7	0.8	1.0	1.0	—	1.0	1.1	1.2	1.5	—	-0.3	-0.3	-0.3	-0.5	—
Germany, FDR	1.0	1.5	1.9	1.9	—	1.9	2.2	2.4	2.6	—	-0.9	-0.7	-0.5	-0.8	—
United Kingdom	1.5	2.0	2.5	3.3	3.6	3.0	3.0	3.3	3.3	4.4	-1.5	-0.9	-0.8	-0.1	-0.9
Latin America and Other Western Hemisphere	5.6	5.5	6.4	7.7	9.3	7.8	8.6	9.8	10.8	11.0	-2.2	-3.1	-3.4	-3.2	-1.7
Mexico	1.9	2.0	2.7	3.4	—	3.6	4.0	4.8	5.7	—	-1.6	-1.9	-2.2	-2.3	—
Venezuela	0.4	0.3	0.4	0.4	—	0.1	0.2	0.3	0.3	—	0.2	0.1	0.1	0.2	—
Other	3.2	3.2	3.4	3.8	—	4.1	4.5	4.7	4.9	—	-0.8	-1.3	-1.4	-1.1	—
Other Countries in Asia & Africa	6.2	6.9	8.8	11.1	4.6	6.8	8.2	8.7	9.0	6.9	-0.6	-1.3	0.1	2.1	-2.3
Australia	0.5	0.5	0.7	0.9	1.0	0.5	0.6	0.7	0.7	0.7	0.0	-0.1	0.0	0.2	0.3
Japan	3.2	3.9	4.9	6.6	7.4	1.3	1.6	1.8	1.8	1.8	1.8	2.4	3.1	4.8	5.5
Other	2.5	2.5	3.2	3.6	-3.7	5.0	6.0	6.2	6.5	4.4	-2.4	-3.6	-3.0	-2.9	-8.1

Sources: The Boston Company Economic Advisors, Inc. and Bureau of Economic Analysis.

$1.8 billion in Japan, leaving the U.S. with a large $4.8 billion surplus. Estimates for 1990 put U.S. earnings from Japanese tourists at $7.4 billion, while spending by U.S. tourists in Japan was unchanged at $1.8 billion, for a $5.5 billion U.S. surplus (Table 4).

Apart from the large surplus with Japan, the only other country where there is a significant surplus is Canada. The U.S. reported a surplus with Canada of $1.5 billion in 1989, and a surplus of $2.2 billion is estimated for 1990. Canadian tourist expenditure in the U.S. was reported at $4.9 billion in 1989 and estimated at $6.1 billion in 1990, while U.S. tourist expenditure in Canada was lower, at $3.4 billion in 1989, and estimated at $3.9 billion in 1990.

Table 5
U.S. Service Trade—Other Private Services
(Billions of Dollars, BOP Basis)

	Exports					Imports					Balance				
	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990
All Countries	22.2	23.3	25.4	29.5	31.9	8.7	11.3	11.8	11.5	14.8	13.5	11.9	13.5	18.0	17.1
Canada	3.0	3.2	3.4	3.5	3.7	0.9	1.2	1.9	1.9	2.3	2.1	2.0	1.5	1.6	1.4
Europe	5.7	6.4	6.9	9.1	10.1	3.5	4.4	4.3	3.2	5.6	2.2	1.9	2.6	5.9	4.5
Western Europe	5.6	6.3	6.8	9.0	9.9	3.4	4.4	4.2	3.1	5.5	2.2	1.9	2.6	5.8	4.5
European Communities (12)	4.6	5.3	5.8	7.8	8.5	2.9	3.8	3.5	2.9	4.7	1.7	1.5	2.3	4.9	3.8
Belgium-Luxembourg	0.3	0.2	0.3	0.3	—	0.1	0.1	0.1	0.1	—	0.2	0.2	0.2	0.3	—
France	0.3	0.3	0.3	0.6	—	0.2	0.2	0.4	0.3	—	0.1	0.0	0.0	0.3	—
Germany, FDR	0.7	0.6	0.6	0.8	—	0.1	0.5	0.4	0.1	—	0.6	0.1	0.2	0.7	—
Italy	0.4	0.4	0.4	0.5	—	0.2	0.2	0.2	0.3	—	0.2	0.1	0.2	0.2	—
Netherlands	0.5	0.6	0.6	0.9	—	0.1	0.1	0.2	0.3	—	0.4	0.4	0.4	0.5	—
United Kingdom	1.9	2.5	2.6	3.5	3.7	2.0	2.5	2.0	1.4	2.3	-0.2	0.1	0.7	2.1	1.4
Other	0.6	0.8	0.9	1.2	—	0.2	0.1	0.3	0.3	—	0.4	0.7	0.6	0.8	—
Other Western Europe	1.0	1.0	1.0	1.2	1.4	0.5	0.6	0.7	0.3	0.7	0.5	0.4	0.3	0.9	0.7
Eastern Europe	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1
Latin America & Other Western Hemisphere	3.8	3.7	3.9	4.3	4.4	3.1	3.6	3.4	3.7	3.7	0.7	0.1	0.5	0.5	0.7
Mexico	0.9	0.8	0.8	1.1	—	0.9	1.0	1.1	1.3	—	0.0	-0.2	-0.4	-0.2	—
Venezuela	0.3	0.3	0.2	0.3	—	0.0	0.0	0.0	0.0	—	0.2	0.2	0.2	0.2	—
Other	2.8	2.8	3.1	3.0	—	2.3	2.6	2.5	2.2	—	0.5	0.1	0.6	0.8	—
Other Countries in Asia & Africa	7.7	7.7	8.8	10.2	8.0	0.9	1.7	1.8	2.1	1.7	6.7	6.0	7.0	8.1	6.3
Australia	0.5	0.5	0.5	0.5	0.5	—	0.1	0.1	0.1	0.1	—	0.4	0.4	0.4	0.4
Japan	1.8	1.8	2.2	2.5	2.5	0.5	0.7	0.7	0.6	0.7	1.3	1.1	1.5	1.9	1.8
Other	5.4	5.5	6.1	7.2	5.0	—	0.9	1.0	1.4	0.9	—	4.6	5.1	5.8	4.1

Sources: The Boston Company Economic Advisors, Inc. and Bureau of Economic Analysis.

Other large trading partners in the area of tourism are listed in Table 4 and include countries in the Western Hemisphere (estimated 1990 earnings and expenditures $9.3 billion and $11.0 billion, respectively), most particularly with Mexico, and in Western Europe with the United Kingdom ($3.6 billion in estimated earnings and $4.4 billion in estimated expenditures in 1990).

Passenger Fares

Receipts from passenger fares represent the amount of money that foreign nationals spend on U.S. carriers and are generally related to earnings from tourism. Like tourist earnings, passenger fare receipts are largest from European countries—as a result of European travellers' use of U.S. carriers for their travel to the United States. But because of a larger volume of U.S. visitors to Europe travelling on European carriers, the U.S. balance with Europe is negative. And, just as the tourist balance between the United States and Japan is positive, so is the passenger fare balance. In fact, in 1989, the U.S. passenger fare surplus with Japan was $2 billion, more than compensating for deficits with other countries. As a result of the large bilateral surplus with Japan, the U.S. reported a net surplus of $1.6 billion in 1989. The surplus in 1990 was reported at $2.3 billion, with an estimated $2.5 billion surplus against Japan alone (Tables 3 and 4).

Other Private Services

The second-largest service export area for the U.S. is other private services, which have grown at a rapid rate over the past few years. This category includes private business and financial services, as well as educational services, insurance, professional and technical services, telecommunications, and revenue from film and tape rentals (Table 3). In 1990, total other private service exports stood at $31.9 billion, up 8.1percent from 1989. Of all the broad export service categories, other private services have the largest surplus, reported at $17.1 billion (although marginally lower than the $18 billion reported in 1989).

Table 6
U.S. Services Trade—Other Transportation
(Billions of Dollars, BOP Basis)

	Exports					Imports					Balance				
	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990
All Countries	15.5	17.0	18.9	20.4	22.0	16.7	18.1	19.7	20.8	23.5	-1.3	-1.1	-0.7	-0.4	-1.5
Canada	0.9	0.9	0.9	1.0	1.1	0.5	0.6	0.8	0.7	0.9	0.4	0.3	0.2	0.3	0.2
Europe	4.9	5.0	5.5	6.7	7.5	5.4	5.7	6.6	7.5	8.8	-0.4	-0.7	-1.1	-0.9	-1.3
Western Europe	4.9	4.9	5.4	6.5	7.1	5.2	5.5	6.4	7.4	8.6	-0.3	-0.7	-1.0	-0.9	-1.4
European Communities (12)	4.0	3.8	4.3	5.2	5.4	4.0	4.4	5.2	5.9	6.7	-0.1	-0.5	-0.9	-0.7	-1.3
Belgium-Luxembourg	0.2	0.2	0.3	0.3	—	0.2	0.2	0.2	0.3	—	0.0	0.0	0.0	0.1	—
France	0.5	0.5	0.5	0.7	—	0.3	0.3	0.4	0.5	—	0.2	0.2	0.1	0.3	—
Germany, FDR	0.7	0.7	0.8	0.9	—	0.9	0.9	1.1	1.2	—	-0.1	-0.2	-0.3	-0.2	—
Italy	0.2	0.3	0.3	0.4	—	0.4	0.4	0.5	0.6	—	-0.1	-0.2	-0.2	-0.2	—
Netherlands	0.5	0.6	0.6	0.7	—	0.4	0.5	0.4	0.4	—	0.1	0.1	0.1	0.2	—
United Kingdom	0.9	0.8	0.9	1.1	1.2	0.8	1.1	0.1	1.7	2.1	0.0	-0.3	0.7	-0.7	-0.9
Other	0.9	0.7	0.9	1.1	—	1.1	0.9	1.1	1.2	—	-0.2	-0.2	-0.2	-0.1	—
Other Western Europe	0.9	1.1	1.1	1.4	1.7	1.2	1.2	1.3	1.5	1.8	-0.3	-0.1	-0.1	-0.2	-0.1
Eastern Europe	0.1	0.1	0.1	0.1	0.3	0.2	0.2	0.2	0.2	0.2	-0.1	-0.1	-0.1	0.0	0.1
Latin America & Other Western Hemisphere	2.1	2.6	2.9	2.9	3.0	1.9	2.3	2.1	2.1	2.0	0.1	0.3	0.7	0.8	1.0
Mexico	0.4	0.4	0.3	0.2	—	0.3	0.4	0.4	0.4	—	0.0	0.0	-0.1	-0.1	—
Venezuela	0.1	0.1	0.2	0.2	—	0.3	0.2	0.2	0.2	—	-0.1	-0.1	0.0	0.0	—
Other	1.6	2.1	2.4	2.5	—	1.3	1.6	1.5	1.5	—	0.2	0.5	0.9	1.0	—
Other Countries in Asia & Africa	6.5	7.2	8.0	8.2	5.3	7.5	8.1	8.3	8.6	4.7	-1.0	-0.8	-0.3	-0.4	0.6
Australia	0.2	0.3	0.2	0.3	0.3	0.4	0.4	0.4	0.5	0.7	-0.2	-0.2	-0.2	-0.2	-0.3
Japan	2.4	2.6	2.8	2.8	2.8	3.1	3.3	3.7	3.8	4.0	-0.7	-0.8	-0.9	-1.0	-1.2
Other	3.9	4.4	5.0	5.2	2.2	4.0	4.3	4.2	4.3	0.0	-0.1	0.1	0.8	0.8	2.1

Sources: The Boston Company Economic Advisors, Inc. and Bureau of Economic Analysis.

The United States has a surplus with almost all its trading partners in other private services (except for Mexico), but is most pronounced with countries in Southeast Asia and Europe. Japan accounts for $1.8 billion of the total $6.3 billion surplus (Table5). A large part of U.S. service exports to countries in Asia and Africa is education, another service which takes place in the United States. In 1989, education accounted for $3.2 billion of the total $10.2 billion in other private services to the region, with $2.8 billion coming from countries other than Japan and Australia.

The surplus against Europe in other private services was reported at $5.8 billion in 1989. Here, service exports are more equally distributed among the different categories. Nevertheless, the largest area is financial services and the largest importer is the United Kingdom (Table 5).

Other Transportation

Earnings from other transportation in 1990 made it the third-largest service export earner for the United States, at $22 billion. This category is related to U.S. merchandise exports, which are transported in U.S. vessels. As a result, growth in other transportation reflects the rapid growth in U.S. merchandise exports. However, because U.S. merchandise imports are larger than exports, and are transported in foreign carriers, the balance in this area is negative (Table 6).

Fees and Royalties

Earnings from fees and royalties is the third largest area of export earnings, with the total reported at $14.8 billion in 1990 (Table 7). Earnings from fees and royalties have a relatively large trade surplus, which in 1990 was $12.8 billion, up from $9.6 billion in 1989 (Table 7).

Geographically the largest source of income from fees and royalties comes from Western Europe, where many U.S. companies have franchises or patented products. In 1989, fees and royalties

Table 7
U.S. Services Trade—Royalties and License Fees
(Billions of Dollars, BOP Basis)

	Exports					Imports					Balance				
	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990
All Countries	7.3	9.1	10.9	11.8	14.8	1.1	1.4	2.1	2.2	1.9	6.2	7.7	8.8	9.6	12.9
Canada	0.7	0.7	0.8	0.2	1.0	0.0	0.0	0.2	0.1	0.1	0.7	0.7	0.6	0.1	0.9
Europe	4.2	5.4	6.3	6.8	8.2	0.7	1.0	1.4	1.7	1.9	3.5	4.4	4.9	5.1	6.3
Western Europe	4.2	5.4	6.2	6.8	8.2	0.7	1.0	1.4	1.7	1.9	3.5	4.4	4.9	5.0	6.2
European Communities (12)	3.7	4.7	5.7	6.0	7.2	0.5	0.7	1.0	1.3	1.5	3.2	4.0	4.7	4.7	5.7
Belgium-Luxembourg	0.3	0.3	0.3	0.3	—	0.0	0.0	0.0	0.0	—	0.3	0.3	0.3	0.3	—
France	0.6	0.8	1.0	1.0	—	0.1	0.1	0.1	0.1	—	0.5	0.7	0.8	0.9	—
Germany, FDR	0.8	1.2	1.2	1.2	—	0.2	0.3	0.3	0.4	—	0.6	0.9	0.9	0.9	—
Italy	0.5	0.5	0.6	0.7	—	0.0	0.0	0.0	0.0	—	0.5	0.5	0.6	0.6	—
Netherlands	0.4	0.5	0.7	0.7	—	0.0	0.0	0.1	0.1	—	0.4	0.5	0.6	0.6	—
United Kingdom	0.8	1.1	1.4	1.4	1.6	0.2	0.3	0.3	0.5	0.6	0.7	0.8	1.0	0.9	1.0
Other	0.2	0.3	0.6	0.6	—	0.0	0.0	0.2	0.0	—	0.2	0.3	0.5	0.5	—
Other Western Europe	0.5	0.6	0.5	0.8	1.0	0.2	0.3	0.3	0.4	0.4	0.3	0.3	0.2	0.4	0.5
Eastern Europe	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—	0.0	0.0	0.0	0.0	—
Latin America & Other Western Hemisphere	0.3	0.3	0.3	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.3	0.4
Mexico	0.1	0.1	0.1	0.2	—	0.0	0.0	0.0	0.0	—	0.1	0.1	0.1	0.2	—
Venezuela	0.0	0.0	0.0	0.0	—	0.0	0.0	0.0	0.0	—	0.0	0.0	0.0	0.0	—
Other	0.2	0.1	0.2	0.2	—	0.0	0.0	0.0	0.0	—	0.1	0.1	0.1	0.2	—
Other Countries in Asia & Africa	2.0	2.7	3.5	3.8	1.0	0.3	0.3	0.5	0.5	0.0	1.8	2.4	3.0	3.3	1.0
Australia	0.8	0.2	0.3	0.4	0.4	0.1	0.0	0.0	0.0	0.0	0.7	0.2	0.3	0.4	0.4
Japan	0.7	1.9	2.4	2.5	2.6	0.2	0.3	0.4	0.5	0.5	0.6	1.6	2.1	2.1	2.1
Other	0.5	0.5	0.7	0.8	-2.0	0.0	0.0	0.1	0.0	-0.5	0.5	0.5	0.6	0.8	-1.5

Sources: The Boston Company Economic Advisors, Inc. and Bureau of Economic Analysis.

from European countries amounted to $8.2 billion, or over half the total receipts in the category. The U.S. surplus with Western Europe was $5.1 billion in 1989 and estimated at $6.3 billion in 1990, about half the total surplus in fees and royalties.

Conclusions

Services exports are an important and growing area of the U.S. economy. At a time when domestic economic activity has contracted, exports of both goods and services are cushioning the downturn. The potential for increased service exports is great, provided there is movement toward further liberalization of international trade which will promote worldwide economic expansion.

It is interesting to note that the largest single importer of U.S. service exports is Japan, with which the U.S. also has the largest bilateral service surplus. Japan, of course, is the same country from which the U.S. gets most of its merchandise imports, resulting in the largest bilateral goods trade deficit. While the $13.4 billion surplus in services does not offset the $41.9 billion deficit in goods trade with Japan, it should be pointed out that over time the goods deficit has been declining and the services surplus has been increasing, reducing the total trade gap and heading it in the right direction.

CSI

Table 1
Summary of the Service Economy
(Monthly Indicators)

	1990:10	1990:11	1990:12	1991:1	1991:2	1991:3	1986	1987	1988	1989	1990
Total Employment—											
Millions of Persons	110.4	110.2	110.0	109.8	109.5	109.3	99.5	102.2	105.5	108.4	110.3
Services	85.7	85.7	85.6	85.6	85.5	85.4	75.0	77.5	80.4	83.1	85.3
Goods	24.8	24.5	24.4	24.2	24.1	23.9	24.6	24.7	25.2	25.3	25.0
Total Wages and Salaries—											
Billions of Dollars	2731.6	2731.6	2753.6	2737.9	2741.7	NA	2094.8	2249.7	2431.1	2573.3	2705.3
Services	2001.2	2010.6	2027.1	2022.1	2028.6	NA	1469.2	1599.7	1734.7	1852.7	1976.0
Goods	730.4	721.0	726.5	715.8	713.1	NA	625.6	650.0	696.4	720.6	729.2
Total Compensation											
%Change, Year-Over-Year	4.6	4.9	5.0	4.0	3.4	NA	6.0	7.4	8.1	5.8	5.1
Services	6.1	6.7	6.6	5.6	5.3	NA	7.5	8.9	8.4	6.8	6.7
Goods	0.8	0.3	0.8	-0.3	-1.8	NA	2.7	3.9	7.1	3.5	1.2
Consumer Price Index—All Urban,											
%Change, Year-Over-Year	6.3	6.3	6.1	5.7	5.3	NA	1.9	3.7	4.1	4.8	5.4
Services	6.0	5.9	5.7	6.2	6.3	NA	5.0	4.1	4.6	4.9	5.5
Goods	6.8	6.8	6.6	5.1	4.2	NA	-1.0	3.2	3.5	4.7	5.2
Services Leading Indicator Index (%)*	-1.4	0.9	2.3	0.0	3.1	NA	4.9	2.3	0.2	4.6	5.5
Leading Economic Indicator Index—Total (%)*	-4.5	-6.1	-5.9	-6.2	-3.7	NA	6.6	6.0	1.9	1.5	-0.7
Services Coincident Indicator Index (%)*	-0.1	0.8	2.1	-0.1	0.1	NA	3.3	3.6	3.8	2.7	2.1
Service Industries Stock Price Index	98.0	102.0	107.8	106.2	118.4	NA	86.3	95.6	88.3	111.5	110.7
S&P 500 Stock Price Index	307.1	315.3	328.8	325.5	362.3	372.3	236.3	286.8	265.8	322.8	334.6

* *Growth rate expressed in six-month smoothed percent changes at annual rate.*

Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Center for International Business Cycle Research and The Boston Company Economic Advisors, Inc.

Table 2
Summary of the Service Economy
(Percent Change, SAAR, Except Where Indicated)

	1989:3	1989:4	1990:1	1990:2	1990:3	1990:4	1986	1987	1988	1989	1990
Gross National Product	1.7	0.3	1.7	0.4	1.4	-1.6	2.7	3.4	4.5	2.5	1.0
Services	4.5	3.4	0.8	1.8	3.1	2.8	3.2	3.4	4.0	2.4	2.4
Goods and Construction	-0.6	-2.3	2.5	-0.8	0.1	-5.4	2.3	3.4	4.8	2.6	-0.3
Construction	-1.4	0.7	12.5	-10.4	-8.4	-12.0	1.5	-0.7	-0.7	-2.2	-1.6
GNP—Product Measure	—	—	—	—	—	—	3.2	3.5	4.5	NA	NA
Services	—	—	—	—	—	—	3.9	3.6	3.9	NA	NA
Goods	—	—	—	—	—	—	1.9	3.3	5.7	NA	NA
Manufacturing	—	—	—	—	—	—	3.1	5.8	9.2	NA	NA
Agri./Mining/Construction	—	—	—	—	—	—	1.3	-0.3	-1.6	NA	NA
Consumption Expenditures	4.6	-0.8	1.1	0.2	2.7	-3.4	3.9	2.8	3.6	1.9	0.9
Services	3.5	3.1	0.1	5.1	3.0	1.8	2.7	4.0	3.8	2.3	2.6
Goods	5.7	-4.4	2.1	-4.4	2.4	-8.4	5.0	1.7	3.4	1.5	-0.7
Plant and Equipment Expenditures—											
Current Dollars	35.8	-15.5	10.3	2.3	-0.5	-4.3	-2.4	2.5	11.0	12.9	3.9
Services	10.4	-1.7	17.6	-1.2	-0.1	-1.9	3.4	2.9	8.3	11.3	5.2
Goods	86.5	-32.7	-0.6	8.3	-1.0	-8.1	-11.1	1.7	15.7	15.6	1.9
Corporate Profits—Current Dollars											
%Change, Year-Over-Year	14.0	-26.8	28.7	33.2	-13.4	-18.6	2.0	11.9	12.8	-4.6	1.3
Services	-24.5	-4.3	25.3	19.9	2.2	NA	21.5	-2.9	6.2	-0.6	NA
Goods	4.1	-50.7	34.3	56.7	-33.0	NA	-25.4	45.7	22.8	-9.7	NA

Sources: Bureau of Economic Analysis, Bureau of Labor Statistics and The Boston Company Economic Advisors, Inc.

Table 3
Summary of the Service Economy
(Billions of 1982 Dollars, SAAR, Except Where Indicated)

	1989:3	1989:4	1990:1	1990:2	1990:3	1990:4	1986	1987	1988	1989	1990
Gross National Product	4129.7	4133.2	4150.6	4155.1	4170.0	4153.4	3717.9	3845.3	4016.8	4117.7	4157.3
Services	1923.5	1939.7	1943.7	1952.5	1967.3	1980.7	1738.8	1798.1	1870.5	1915.6	1961.1
Goods and Construction	2206.3	2193.5	2206.9	2202.5	2202.8	2172.7	1979.1	2047.2	2146.4	2202.1	2196.2
Construction	369.8	370.4	381.5	371.2	363.1	351.7	386.4	383.8	381.1	372.7	366.9
GNP—Product Measure *	—	—	—	—	—	—	3754.1	3885.5	4060.0	NA	NA
Services	—	—	—	—	—	—	2513.9	2603.9	2705.7	NA	NA
Goods	—	—	—	—	—	—	1240.2	1281.6	1354.3	NA	NA
Manufacturing	—	—	—	—	—	—	803.2	849.7	927.5	NA	NA
Agri./Mining/Construction	—	—	—	—	—	—	406.5	405.3	398.7	NA	NA
Consumption Expenditures	2675.3	2669.9	2677.3	2678.8	2696.8	2673.6	2446.4	2515.7	2606.5	2656.8	2681.6
Services	1313.8	1323.8	1324.2	1340.8	1350.8	1356.7	1183.8	1231.6	1278.9	1309.0	1343.1
Goods	1361.5	1346.1	1353.1	1338.0	1346.0	1316.9	1262.6	1284.1	1327.6	1347.8	1338.5
Plant and Equipment Expenditures—											
Current Dollars	541.9	519.6	532.4	535.5	534.9	529.0	399.3	409.2	454.2	512.8	533.0
Services	319.7	318.3	331.5	330.5	330.4	328.8	253.0	260.4	282.1	313.9	330.3
Goods	222.2	201.3	200.9	205.0	204.5	200.2	146.3	148.8	172.1	198.8	202.6
Corporate Profits—											
Current Dollars	236.1	218.4	232.6	249.9	241.1	229.0	195.2	218.5	246.5	235.2	238.1
Services	136.2	134.7	142.5	149.1	149.9	NA	135.8	131.8	140.0	139.1	NA
Goods	99.9	83.7	90.1	100.8	91.2	NA	59.5	86.7	106.5	96.1	NA
Current Account Balance—											
Quarterly Rates	-27.6	-26.7	-22.3	-22.7	-26.5	-27.8	-145.4	-162.3	-128.9	-110.0	-99.3
Services Balance	5.7	6.1	5.9	5.9	5.1	5.9	4.7	6.4	11.5	20.5	22.9
Private Services Balance **	7.2	8.3	7.6	7.7	7.2	8.3	10.7	11.3	18.3	28.2	30.9
Exports	26.7	28.1	28.8	29.4	30.2	31.3	70.6	79.5	92.9	106.2	119.8
Imports	-19.5	-19.9	-21.2	-21.7	-23.0	-23.0	-59.9	-68.2	-74.6	-78.0	-88.9
Merchandise Trade Balance	-29.8	-28.7	-26.8	-23.2	-29.8	-28.9	-145.1	-159.5	-127.0	-114.9	-108.7

* *Figures differ from Expenditure GNP due to different measurement methods.*

** *Private Services Balance is the balance on Service exports and imports excluding receipts and payments on investments and government transactions.*

Sources: Bureau of Economic Analysis and The Boston Company Economic Advisors, Inc.

THE COALITION OF SERVICE INDUSTRIES was formed in 1982 to increase public awareness of the expanding role of the service sector in the U.S. economy. One of the priorities of the Coalition is to improve the adequacy of statistical programs in their measurement and analysis of the service sector.

THE SERVICE ECONOMY is a product of the CSI Task Force on Data Collection and Statistical Improvement. Comments or suggestions should be directed to Maria Eli, Editor, at 202/467-3054.

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Research and Development in the Service Sector

Melissa Pollak

Statistics on research and development (R&D) undertaken by the service sector have been collected with the National Science Foundation's (NSF) annual survey of Industrial Research and Development since the mid-1950s. Until recently, however, the data were of dubious quality and reliability. A few years ago, NSF staff recommended simple, but major revisions in the survey's sampling operation specifically to increase the quantity and quality of R&D data available on the service sector. These improvements were implemented before the 1987 survey was mailed to companies by the Census Bureau (which conducts the survey for NSF under an interagency agreement).

Data from the 1987, 1988, and 1989 surveys are now available, and they reflect the substantial improvements NSF was seeking.

The purpose of this article is to (1) describe the quality and availability of R&D data on the service sector prior to 1987; (2) provide data collected after the changes were implemented; and (3) identify problems that continue to exist in collecting R&D data on the service sector.

Ms. Pollak is a Senior Science Resources Analyst at the National Science Foundation. The views expressed are those of the author and do not necessarily reflect the views of NSF. *Ms. Pollak wishes to thank Andrew Mary of the Census Bureau for preparing data included in Tables 2 and 3, and for providing information regarding the data and Census Bureau survey procedures.*

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I. Pre-1987 R&D Data on the Service Sector

Prior to the 1980s, NSF along with most government agencies, paid little attention to the collection of R&D data on the service sector. Companies in Standard Industrial Classification (SIC) codes 1 through 19 and 40 through 99, the nonmanufacturing industries, have always been included in NSF's annual Survey of Industrial Research and Development, but because they accounted for such a small percentage of R&D expenditures (less than 2 percent in the late 1950s; less than 5 percent in 1980), they were rarely mentioned in reports produced by NSF for government policymakers. The major investments in basic and applied research, and in the development of new products and processes, were and continue to be made by companies in the manufacturing industries, such as chemicals, machinery, electrical equipment, transportation equipment, and instruments.[1]

In the early 1980s, NSF staff noticed a substantial increase in the number of requests for statistical data on R&D in the service sector. These data users frequently questioned the validity of data showing the total amount of funds spent on R&D by the nonmanufacturing sector as published annually in the NSF report, *Research and Development in Industry*.

Data users also began to ask for more detailed information about industries within the nonmanufacturing sector, and although statistics for a few individual industries were occasionally available, data for most service industries could not be released because of the small number of R&D-performing companies in those industries participating in the survey.[2]

By the early 1980s analysts at NSF were well aware of the emergence and growth of new industries in the service sector, such as software development and biotechnology, and plans were underway to improve the collection of R&D data from service companies. After investigating the coverage of these industries by the annual R&D survey, it was learned that many new companies formed in the late 1970s were not included in the survey, and that many had little or no possibility of selection for the most recent (1981) sample.

NSF staff concluded that (1) the amount of R&D performed by the service sector was probably much higher than what was reported in the annual survey and (2) the quality and availability of R&D data on the service sector could be substantially improved if sampling were carried out more efficiently.[3]

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[1]Companies in these five industries accounted for four out of every five R&D dollars spent by industrial firms in the U.S. in 1989.

[2]The Census Bureau imposes restrictions on the publication of data that might reveal information on individual company operations.

[3]Collecting data on the total amount of research and development performed by industrial firms in the U.S. poses a dilemma because while the vast majority of firms conduct no R&D, there is no foolproof way to identify every firm engaged in R&D. The challenge, therefore, was to target R&D performers by sampling only a small number of companies. Efforts subsequently undertaken by NSF and Census to improve coverage of the service sector are described in detail in the 1988 edition of *Research and Development in Industry*.

II. Current R&D Data for the Service Sector

As expected, the number of service companies now being surveyed and the amount of R&D expenditures reported are substantially higher than before the changes in the sampling selection operation were made.

There was nearly a three-fold increase in the level of R&D expenditure data for nonmanufacturing industries for 1986, the benchmark year. Data collected with the 1986 survey show firms in these industries spending a total of $2.7 billion (in company and other, including Federal, funds) on R&D in 1986; data collected with the 1987 survey show them spending $7.4 billion in 1986.

The service sector now represents over 8 percent, up from 4 percent in 1979, of total estimated industrial R&D expenditures (see Table 1).

The data show more than a five-fold increase in R&D spending between 1979 and 1989.[4] Because many new service companies came into existence during this period, it is not possible to determine how much of the increase is real and how much is attributable to better coverage of the sector.

Table 1. Total (company, Federal, and other) funds for industrial R&D performance
(Dollars in Millions)

	All Industries	Manufacturing Industries	Nonmanufacturing Industries	Nonmanufacturing R&D as a percent of total R&D
1958	$ 8,389	$ 8,272	$ 117	1.4%
1959	9,618	9,479	139	1.4
1960	10,509	10,341	168	1.6
1961	10,908	10,714	194	1.8
1962	11,464	11,230	234	2.0
1963	12,630	12,354	276	2.2
1964	13,512	13,194	318	2.4
1965	14,185	13,803	382	2.7
1966	15,548	15,051	497	3.2
1967	16,385	15,826	559	3.4
1968	17,429	16,826	603	3.5
1969	18,308	17,653	655	3.6
1970	18,062	17,357	705	3.9
1971	18,311	17,607	704	3.8
1972	19,552	18,845	707	3.6
1973	21,249	20,534	715	3.4
1974	22,887	22,119	768	3.4
1975	24,187	23,452	735	3.0
1976	26,997	26,152	845	3.1
1977	29,825	28,867	958	3.2
1978	33,304	32,075	1,229	3.7
1979	38,226	36,686	1,540	4.0
1980	44,505	42,690	1,815	4.1
1981	51,810	49,904	1,906	3.7
1982	58,650	56,178	2,472	4.2
1983	65,268	61,931	3,337	5.1
1984	74,800	69,895	4,905	6.6
1985	84,239	77,525	6,714	8.0
1986	87,823	80,377	7,446	8.5
1987	92,155	84,311	7,844	8.5
1988	97,889	89,776	8,113	8.3
1989	101,599	93,326	8,273	8.1

Source: National Science Foundation, annual Survey of Industrial Research and Development

Table 2 contains selected data for several service industries. As more companies are now being surveyed, more data for individual industries are now available.

Companies in the computer programming and engineering[5] service industries accounted for $4.0 billion, or nearly half of the total $8.3 billion spent on R&D in the service sector in 1989.

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[4]Data for the years between samples, 1982-85, are adjusted by the Census Bureau using standard procedures to link data for the most recent sample year with those collected for the previous sample year.

[5]An examination of Census' classification of companies in these two industries revealed that firms in both groups were performing essentially the same type of R&D. Therefore, a decision was made to report data from these two industries together.

Table 2. Selected data for R&D-performing manufacturing and nonmanufacturing companies: 1987-89

Industry(1)	SIC code	R&D Funds [Dollars in millions] Total			Federal			Company		
		1987	1988	1989	1987	1988	1989	1987	1988	1989
Total	------	$92,155	$97,889	$101,599	$30,752	$32,306	$31,366	$61,403	$65,583	$70,233
Manufacturing industries	------	84,311	89,776	93,326	28,052	29,553	28,650	56,259	60,223	64,676
Nonmanufacturing industries		7,844	8,113	8,273	2,700	2,753	2,716	5,144	5,360	5,557
Communication services	48,part 737	(D)	(D)	(D)	(D)	(D)	(D)	1,085	966	881
Electric, gas, and sanitary services	49	247	236	251	11	52	21	236	184	230
Computer programming, data processing, other computer-related, engineering, architectural, and surveying services	part 737,871	3,313	3,828	4,009	1,088	1,326	1,339	2,225	2,502	2,670
Hospitals; medical and dental laboratories	806-07	120	151	163	3	3	3	117	148	160
Research, development, and testing services	873	1,235	1,164	1,200	667	549	574	568	615	626
All other nonmanufacturing industries	10-11,14-17,40-42,44-47,50-51,53-54,56,60,62-63,72-73,78,872,874	(D)	(D)	(D)	(D)	(D)	(D)	913	945	990

Industry(1)	SIC code	Domestic Net sales [Dollars in millions]			R&D scientists & engineers [in thousands] January			Domestic employment [in thousands] March		
		1987	1988	1989	1988	1989	1990	1987	1988	1989
Total	------	$2,219,496	$2,408,892	$2,511,775	708.6	720.2	731.7	17,210	17,241	16,939
Manufacturing industries	------	1,795,076	1,921,936	2,001,372	612.2	622.5	626.5	13,089	13,043	12,744
Nonmanufacturing industries		424,420	486,956	510,403	96.4	97.7	105.2	4,121	4,198	4,195
Communication services	48,part 737	59,039	67,670	70,747	10.3	8.4	11.4	405	487	488
Electric, gas, and sanitary services	49	140,697	158,696	166,581	1.3	1.4	1.5	556	572	570
Computer programming, data processing, other computer-related, engineering, architectural, and surveying services	part 737,871	26,284	32,522	35,117	(S)	(S)	(S)	243	268	275
Hospitals; medical and dental laboratories	806-07	6,087	7,099	4,853	1.7	(S)	(S)	946	982	982
Research, development, and testing services	873	11,490	12,056	12,427	8.5	8.2	7.7	192	194	192
All other nonmanufacturing industries	10-11,14-17,40-42,44-47,50-51,53-54,56,60,62-63,72-73,78,872,874	180,823	208,913	220,678	44.5	47.1	51.0	1,779	1,695	1,688

(1) Industries and industry groups are classified according to Standard Industrial Classification (SIC) codes.
(D) Data have been withheld to avoid disclosing operations of individual companies.
(S) Data have been withheld because of imputation of more than 50 percent.

SOURCE: National Science Foundation, annual Survey of Industrial Research and Development

This group was also responsible for all of the growth in R&D spending by service companies between 1987 and 1989.

Firms classified in the communication services industry reported spending $881 million in company funds on R&D in 1989, down from $1.1 billion in 1987.[6] There has been a strong demand for statistical information on the communications industry since deregulation of the industry in the early 1980s. Before the 1987 data became available, NSF was underreporting R&D expenditures for the industry because most of the new companies formed after deregulation could not be added to the survey until the new sample was drawn. In addition, almost all of the R&D funds for the industry were classified under "communication equipment" in the manufacturing sector.

Now researchers should use data from both communication equipment in the manufacturing segment of the industry, and "communication services" classified in the services segment, in their analyses of R&D performance by the industry. NSF data currently show a 133 percent increase between 1981 and 1986 in total R&D funds spent by the communications industry, compared to 88 percent, the increase reported by NSF before the 1987 sample was drawn.

III. Problems Affecting the Accurate Measurement of Service Sector R&D

Data users should be aware of two major problems NSF has in providing reliable R&D statistics from the survey:

1. Respondents representing many service sector companies have difficulty defining R&D.

Table 3 shows the number of companies in the sample and how many of those reported R&D expenditures. Only 773 or 11 percent of sampled companies in service industries reported R&D expenditures. After the 1987 survey was mailed, the Census Bureau was inundated with inquiries from service companies questioning their inclusion in the survey. Their objections centered around a

Table 3. Number of companies in the sample with R&D expenditures

Non-manufacturing SIC Codes	Selected for 1987 Sample	Companies with Data for 1987
10	22	10
11	25	4
13	n/a	4
14	30	10
15	185	11
16	140	11
17	139	11
40	21	5
41	41	0
42	142	3
44	54	3
45	65	3
46	12	1
47	42	1
48	115	23
49	222	94
50	274	40
51	n/a	3
53	156	3
54	309	10
56	132	6
60	387	7
62	82	4
63	592	19
72	34	5
73	329	35
737	475	133
7391} 7392} 7397}	605	31 6
78	24	4
806	23	2
807	1,118	60
891	1,466	159
Total, Non-Manufacturing	7,261	773
Total, Mfg.	6,656	2,875
Total, All Industries	13,917	3,648

Source: U.S. Department of Commerce, Bureau of the Census

[6] A Census Bureau prohibition on publication of data that might reveal information on individual companies is preventing publication of 1987-89 data on expenditures of Federal R&D funds for the communications services industry, causing a "secondary" suppression of data on total R&D funds. Table 2 shows the communication services industry ranking second in company (and other) R&D funds.

misunderstanding of NSF's definition of R&D, and the misconception that they were not "industrial" firms. (All profit-making businesses are considered to be industrial firms). A 1987 report issued by the Office of Technology Assessment explained,

> Many activities of service firms fall outside NSF's definitions of R&D, which have been oriented toward manufacturing companies. At the same time, many service firms—even those that for years have budgeted substantial sums for the development of proprietary technology—do not think of what they do as R&D, at least in self-conscious or systematic fashion. For example, product development departments in banks are new, as pointed out earlier in this report, even though they may simply represent a reorganization of existing functions.[7]

Only 3 percent of the financial institutions that received survey questionnaires in 1987 reported R&D expenditures (see Table 3). When senior managers at 14 of the 25 largest U.S. banks were queried about their institutions' investment in R&D, researchers found:

> Banks do not think of themselves as performing R&D. They view the notion of R&D as foreign to their businesses.
>
> Nonetheless, technology is playing an increasingly important role in these banks. While banks do not see themselves as engaging in R&D, most of the banks in the study are actively engaged in applications development (e.g., applications of image processing technology and expert systems); some may even be regarded as pioneers in the development of new applications of technology to banking.[8]

2. Service related R&D performed by companies classified in manufacturing industries cannot be identified.

It is likely that a substantial amount of R&D in the service sector is conducted by nonmanufacturing components of manufacturing firms. NSF's industry R&D survey is an enterprise rather than an establishment-based survey. Therefore, each company's entire R&D outlays are classified into one industry, regardless of how diversified the company might be. In general, firms are given an industry classification based on their highest dollar value of payroll. Thus, the amount of service-related R&D undertaken by companies classified in manufacturing industries is unknown.

In odd-numbered years there is a "product field" question on the survey where respondents are asked to allocate their total R&D expenditures into various product areas. Unfortunately, only about 60 percent of the respondents currently provide the requested data, rendering the information unreliable. In addition, nonmanufacturing industries are not included in the list of product fields. NSF

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[7]U.S. Congress, Office of Technology Assessment, *International Competition in Services*, OTA-ITE-328 (Washington, D.C.: U.S. Government Printing Office, July 1987), p. 309.

[8]Joseph Morone and Daniel Berg, "Management of Technology and the Service Sector: A Survey of Practice in the Banking Industry," Renesselaer Polytechnic Institute School of Management working paper.

has received permission from the Office of Management and Budget to explore the feasibility of adding product fields to the list, and if a test of the product field question is conducted, "software development" will be one of the newly added fields.

Conclusion

NSF continues to assess the objectives, design, and operation of the industry R&D survey. Development and implementation of alternative sample construction techniques, survey instruments and procedures, and imputation methodologies may help alleviate the problems described in the preceding section. The goal is to identify the best methods for providing accurate, consistent, and timely data on industrial R&D performance. Suggestions for improving data collection on the service sector are welcome.

Table 3
Summary of the Service Economy
(Billions of 1982 Dollars, SAAR, Except Where Indicated)

	1989:4	1990:1	1990:2	1990:3	1990:4	1991:1	1986	1987	1988	1989	1990
Gross National Product	4133.2	4150.6	4155.1	4170.0	4153.4	4124.1	3717.9	3845.3	4016.8	4117.7	4157.3
Services	1939.7	1943.7	1952.5	1967.3	1980.7	1993.0	1738.8	1798.1	1870.5	1915.6	1961.1
Goods and Construction	2193.5	2206.9	2202.5	2202.8	2172.7	2131.1	1979.1	2047.2	2146.4	2202.1	2196.2
Construction	370.4	381.5	371.2	363.1	351.7	333.6	386.4	383.8	381.1	372.7	366.9
GNP—Product Measure *	—	—	—	—	—	—	3754.1	3885.5	4060.0	NA	NA
Services	—	—	—	—	—	—	2513.9	2603.9	2705.7	NA	NA
Goods	—	—	—	—	—	—	1240.2	1281.6	1354.3	NA	NA
Manufacturing	—	—	—	—	—	—	803.2	849.7	927.5	NA	NA
Agri./Mining/Construction	—	—	—	—	—	—	406.5	405.3	398.7	NA	NA
Consumption Expenditures	2669.9	2677.3	2678.8	2696.8	2673.6	2663.7	2446.4	2515.7	2606.5	2656.8	2681.6
Services	1323.8	1324.2	1340.8	1350.8	1356.7	1363.7	1183.8	1231.6	1278.9	1309.0	1343.1
Goods	1346.1	1353.1	1338.0	1346.0	1316.9	1300.0	1262.6	1284.1	1327.6	1347.8	1338.5
Plant and Equipment Expenditures—											
Current Dollars	519.6	532.4	535.5	534.9	529.0	535.3	399.3	409.2	454.2	512.8	533.0
Services	318.3	331.5	330.5	330.4	328.8	335.3	253.0	260.4	282.1	313.9	330.3
Goods	201.3	200.9	205.0	204.5	200.2	200.0	146.3	148.8	172.1	198.8	202.6
Corporate Profits—											
Current Dollars	218.4	232.6	249.9	241.1	222.3	221.4	195.2	218.4	246.5	235.2	238.1
Services	134.7	142.5	149.1	149.9	149.2	154.3	135.8	131.8	140.0	139.1	147.7
Goods	83.7	90.1	100.8	91.2	73.1	67.1	59.5	86.7	106.5	96.1	88.8
Current Account Balance—											
Quarterly Rates	-24.7	-22.7	-22.2	-23.9	-23.4	10.2	-145.4	-160.2	-126.2	-106.3	-92.1
Services Balance	6.5	5.9	6.6	6.4	7.5	7.0	4.7	6.3	10.3	22.4	26.4
Priv ate Services Balance **	8.6	8.0	8.5	8.5	10.1	9.6	10.7	11.4	17.4	30.1	35.1
Exports	28.5	29.2	29.9	30.8	32.8	31.2	70.6	79.4	92.4	107.5	122.7
Imports	-20.0	-21.1	-21.4	-22.3	-22.7	-21.6	-59.9	-68.0	-75.0	-77.4	-87.6
Merchandise Trade Balance	-28.6	-27.5	-24.1	-28.8	-27.7	-18.4	-145.1	-159.5	-127.0	-115.9	-108.1

* *Figures differ from Expenditure GNP due to different measurement methods.*
** *Private Services Balance is the balance on Service exports and imports excluding receipts and payments on investments and government transactions.*

Sources: Bureau of Economic Analysis and The Boston Company Economic Advisors, Inc.

Trade and Technology Policies

Henry Lichstein

The service sector dominates economic activity in every developed economy in the world. In the United States, it accounts for 77 percent of employment and almost 70 percent of the GNP. For that reason, when discussing trade or technology the needs of the service sector must not be forgotten.

Both trade and technology conjure up images of physical goods being created, transported, and used, but it is the service sector that purchases as much as 85 percent of all high technology products in the United States. In addition, service sector firms are important initiators and managers of high-tech systems throughout the world. In short, the service sector is the dominant user of high technology goods produced, traded and sold around the world.

Furthermore, the service sector itself is a significant and growing component of international trade, accounting for 20 percent of total measured U.S. exports in 1990. Service exports climbed steadily throughout the last decade, and have doubled since 1980. Against this background, current trade policies are inadequate for the challenges of high technology.

Improved Policy on Research Support

First, the policies the United States develops should acknowledge the truly global character of the intellectual activity underlying basic research, and the truly global character of the development activities practiced by most large-scale technology firms. False notions of sovereignty with respect to research activities are counterproductive.

Second, the freest possible trade regime, especially in the field of high technology, must be endorsed. Building barriers at national boundaries increases the cost of technology products, and barriers adversely affect more users than producers. Thus, there are more beneficiaries of free trade in technology products than there are beneficiaries of barriers. Protectionist policies of any type that protect or subsidize U.S. firms' technology are counterproductive. Protectionism fosters inefficiencies and retards long-term economic growth, and as ownership and operating location of firms become diffuse, protectionism becomes less and less feasible.

Five Propositions For Developing Policies on Trade and Technology

The following five propositions can be applied toward developing trade and technology policies. They imply that we must move beyond the industrial model when we develop trade and technology policy regimes.

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1. The first proposition relates to the support of research. Too much of the debate about support of research relates to the country of ownership of the firm receiving the support. One of the most important products of support for research is the enhancement of the skill base of the people doing the research. Enhancing a skill base is inherently local in nature and cannot be appropriated. It is not necessary to control the product of supported research or the home country of companies participating in research projects, as long as the people who do the work remain to work on the next project. This applies to research consortia as well as single-company research centers.

2. The second proposition is that we should consider consumers equally with producers when writing trade and technology policies. There are more users of technology than there are producers, and consequently the policies for trade and technology should be as sensitive to the needs of users and consumers as to the needs of producers. We should look to trade in high technology products to increase national welfare. This is accomplished as much by increasing market access for users, as by providing expanded markets for producers. This proposition is especially critical to the service sector.

3. The third proposition recognizes that there is an important technical foundation for the products of the service sector. Over 20 percent of the capital base of service sector firms supports information technology, twice the percentage of manufacturing firms. (It is 40 percent for banks.) Trade policy and technology policy should promote the free use of services which are dependant on the use of computers, telecommunications, and of information technologies. The broad use of these technologies requires that movement of data and ideas throughout the world be unencumbered by restrictions. Data should flow freely, access to telecommunications should be facilitated, and the commercial value of traded intellectual property should be protected.

4. The fourth proposition is that our trade and technology policies should be sensitive to the decreasing distinction between goods and services. It is estimated that 92 percent of all U.S. workers are engaged in service functions, whether they are in goods producing or service producing companies. The value added by computer software, the development of design capabilities, and the application of other knowledge-based products comprises the majority of most products. The heaviest milling machine is run by a computer program, and the largest jet aircraft has a high embedded cost as a result of its design and its materials development. These products of the service sector appear as manufactured goods, but they are the result of intellectual activity and have their own special needs.

5. The fifth proposition argues for the support of research and development of technological infrastructure rather than of specific industries. There is such a high degree of cross-industrial interaction and interdependence among firms—suppliers, producers, and users—that policies aimed at supporting individual industries can only distort innovative and competitive capacities. However, there is little doubt that supporting infrastructure raises the general level of capability and, therefore, raises the general welfare.

These five propositions imply an agenda for trade and technology policy regimes. They argue that support for research generates local benefits sufficient to justify the support without regard to country of domicile of the company doing the research. They also argue that the service sector is as important as manufacturing with respect to trade policy, and that a focus on users rather than producers is desirable.

Innovation and Competition

The body of research on the subject suggests that long-term economic growth and competitiveness depend mainly on the capacity of a country to deploy technical capabilities across a broad range of economic activities, no matter where those technologies originate. While competitiveness in high technology will be enhanced by limiting unfair trade practices and supporting the growth of services trade, it will also depend on fundamental national assets such as education, communication infrastructures, and the many services that are necessary to exploit our comparative advantage in high tech innovation. The fruits of support for research and development of any technology will be enjoyed locally only if those infrastructure assets are in place.

Once a country develops its national assets—its workforce, distribution systems and information networks, etc.—it can foster innovation in the international marketplace with maximum benefit to the welfare of its people. It can do this if it: 1) supports "precompetitive" technologies; 2) establishes an hospitable environment for domestic and foreign companies which conduct basic and applied research locally; 3) forestalls intellectual protectionism by keeping university-based research programs open and international in character and membership; 4) enhances the overall climate for international cooperation by establishing research exchange programs; 5) and promotes the development of joint ventures in order to share the burdens of high cost and risks inherent in high technology.

These efforts to support research are consistent with the five stated propositions, and would promote world trade in manufactured goods as well as in services.

THE COALITION OF SERVICE INDUSTRIES was formed in 1982 to increase public awareness of the expanding role of the service sector in the U.S. economy. One of the priorities of the Coalition is to improve the adequacy of statistical programs in their measurement and analysis of the service sector.

THE SERVICE ECONOMY is a product of the CSI Task Force on Data Collection and Statistical Improvement. Comments or suggestions should be directed to Maria Eli of CSI, at 202/508-8622.

SERVICES ECONOMIC HIGHLIGHTS

CSI

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The Service Economy At a Glance—Getting Better

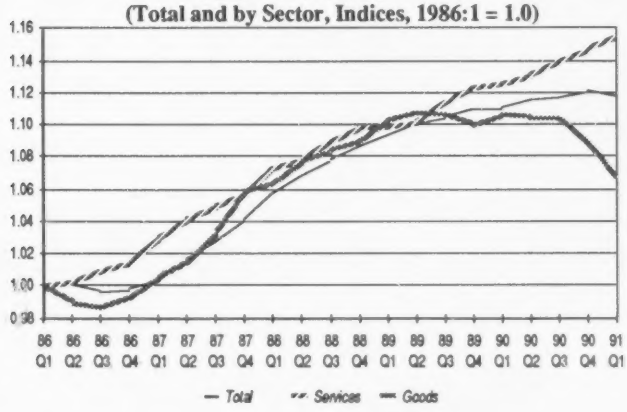
After suffering a mild recession in late 1990 and early 1991, the Service Economy is showing improved activity, principally from consumer spending and a modest pickup in manufacturing sector demands for services. Outsourcing in business and government sectors continues to enhance services sector growth.

- ***Services GNP Measured by Expenditures*** expanded in the first quarter at a modest 2.5% rate, while a 7.4% drop in goods sector economic activity pushed overall GNP down at a 2.8% annual rate.
- ***Personal Consumption Expenditures on Services*** have shown some improvement. First-quarter services spending was reported up at a 2.1% annual rate, compared with 1.8% in the previous quarter. More recent monthly statistics suggest that services outlays are continuing to rise, especially in the aftermath of the Gulf crisis.
- ***Private Services Exports*** still remain strong, although down from the fourth quarter peak. At $31.2 billion in the first quarter, private services exports stood only $1.3 billion below the record high of $32.8 billion reported for the fourth quarter. The surplus on private services trade narrowed to $9.6 billion from $10.1 billion in the fourth quarter.
- The ***Services Sector Leading Index***—which leads activity by about six months—increased for the fourth consecutive month, in May, posting a solid 3.4% increase. The coincident index, reflecting current economic conditions, showed a strong 0.8% gain, quite a switch from the 0.6% decline in April. The surge came mainly from the average workweek component, suggesting a recovery is on the way.
- ***Services Employment*** increased a total of 101,000 in May and June, a small improvement over previous months. Cumulative two-month gains occurred only in health care (57,000) and government (7,000). Job losses occurred in finance, insurance and real estate (17,000); wholesale trade (16,000); and retail trade (3,000). Transportation and public utilities was unchanged. Job losses were widespread enough to indicate the service economy is still weak.
- Inflation of ***Consumer Services Prices*** continues to soften, with June prices up 5.0% year-over-year, down from a recent peak of 6.3% in February, but up a disturbing 0.6% over May.
- The ***Services Stock Price Index*** fell 1.3% in May compared with April, and was 4.4% higher over the twelve months ending in May. This year-over-year decline followed three months of increases.

Bottom Line: The Service Economy is expanding again, in the aftermath of the downturn caused principally by the Gulf Crisis and Iraqi War. Health care services continue to explode higher; finance and real estate services are picking up; and government sector services are moving a little higher. Business services seem to have bottomed out. Continuing expansion is expected, but at a subdued pace as private sector spending stays cautious. With business soft, service sector companies will try to squeeze more productivity out of a slowly growing workforce.

The Service Economy refers to the total economy, in which services activities are the dominant factor. The Service Economy comprises 68% of real production GNP and 76% of employment. Major segments are: Communications; Transportation; Public Utilities; Finance, Insurance and Real Estate; Wholesale and Retail Trade; Government; and "Service," a diverse category including Business Services, Personal Services, Professional and Health Services.

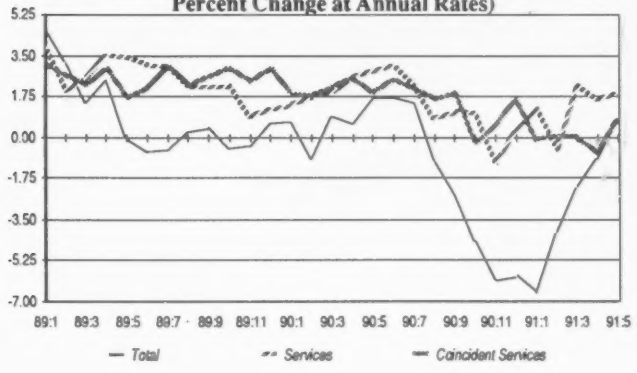
Chart 1
Real Gross National Product
(Total and by Sector, Indices, 1986:1 = 1.0)



Services GNP Growth Softens--But Resilient Compared with Goods-Producing

First-quarter services GNP—measured on the expenditure basis—increased 2.5%, down from 2.8% in the previous quarter. The goods component of GNP, including construction, plunged 7.4%. But even without construction, which is down 19.1%, goods GNP declined 5.1%. Overall GNP declined 2.8% in the first quarter.

Chart 2
Leading Economic Indicator Indices
(Total Economy and Service Sector, Six-Month Smoothed, Percent Change at Annual Rates)

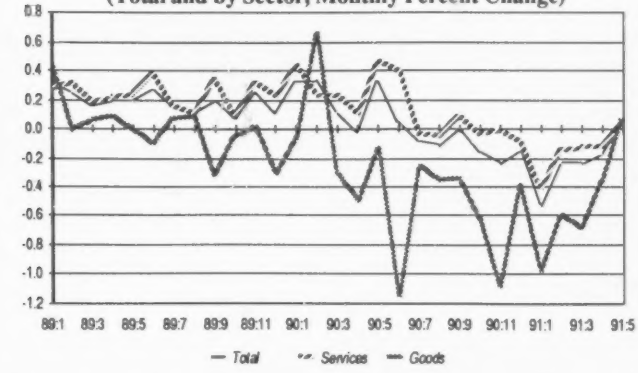


Services Leading Index Posts Solid Gains

The leading index for the service sector increased sharply by 3.4% in May, following a 1.9% increase in April. The rise was mainly from a higher average workweek, which was partly offset by lower stock prices. The coincident index also showed a strong rise, up 0.8%, more than reversing a 0.6% decline the month earlier. All available components showed gains.

The Service Sector Indices are produced by the Center for International Business Cycle Research, Columbia University.

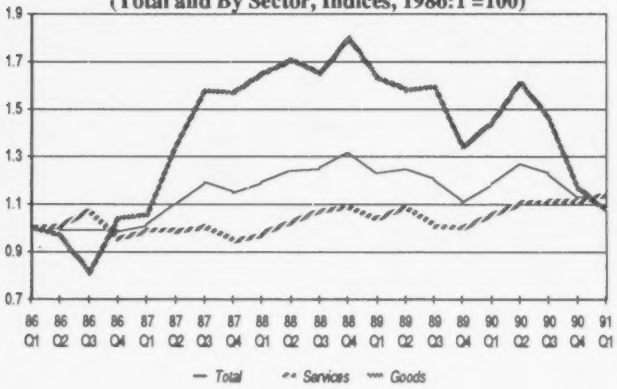
Chart 3
Employment Growth
(Total and by Sector, Monthly Percent Change)



Services Employment Continues to Rise—Key Recovery Signal

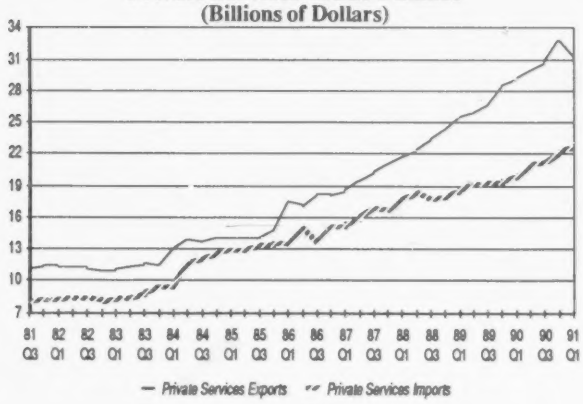
Service sector employment rose 21,000 in June, following an 80,000 increase in May. Although growth is slower than ususal, the two consecutive months of increases strongly suggest recovery. Job growth in services is still narrowly focused, however. Employment in the goods sector fell 71,000, more than offsetting an increase of 39,000 in the previous month.

Chart 4
Corporate Profits For Domestic Industries
(Total and By Sector, Indices, 1986:1 =100)



Services Corporate Profits Up 14.4%
First-quarter profits of service industries surged 14.4%, following a big 27.7% drop in the fourth quarter. The rise was led by financial industries. Profits in goods sectors continued to fall. In the latest three-month period, goods sector profits declined 29%, an improvement over the 58.7% plunge in the fourth quarter, but still "recession-like." Corporate profits for all industries were down 1.6% in the first quarter, a small decline compared to a 27.7% drop in the previous three-month period.

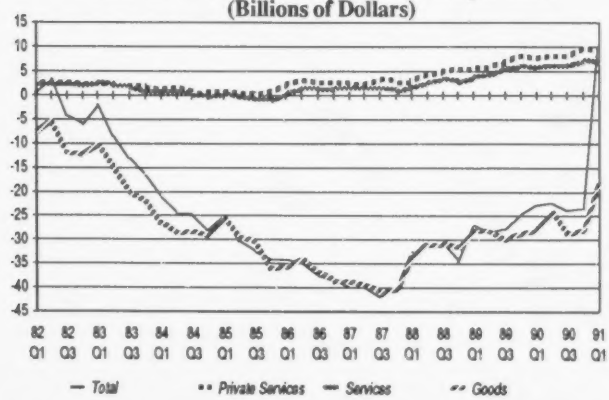
Chart 5
Private Services Trade Balance
(Billions of Dollars)



Private Services Surplus Still High*
At $9.6 billion in the first quarter, the private services trade surplus narrowed slightly from the $10.1 billion high of the previous three month period. Both exports and imports of services fell, a result of the Gulf War. Exports declined 4.9% to $31.2 billion, while imports fell 4.8% to $21.6 billion. Private services trade remains the bright spot of the U.S. economy.

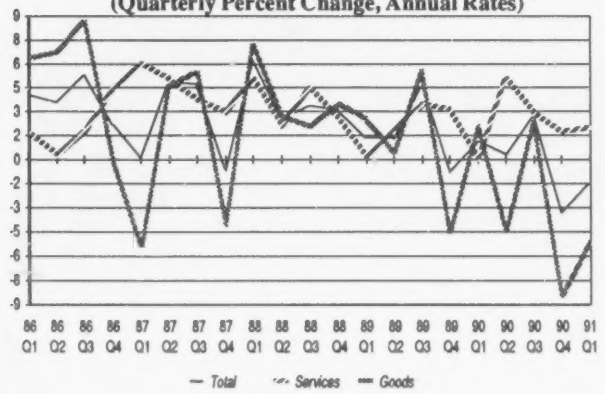
* *Private services trade refers to private nonfinancial trade flows such as travel, tourism, education, passenger fares, financial services, and fees and royalties.*

Chart 6
Current Account Balance and Components
(Billions of Dollars)



Current Account Balance In Surplus
For the first time since 1982, the current account balance stood in surplus. In the first quarter, the surplus totaled $10.2 billion. The improvement can be mainly attributed to a large $16.9 billion surplus in the net unilateral transfers balance, reflecting Gulf War payments from U.S. allies. The total services surplus was $7 billion. At $18.4 billion, the goods trade deficit was the smallest since 1983.

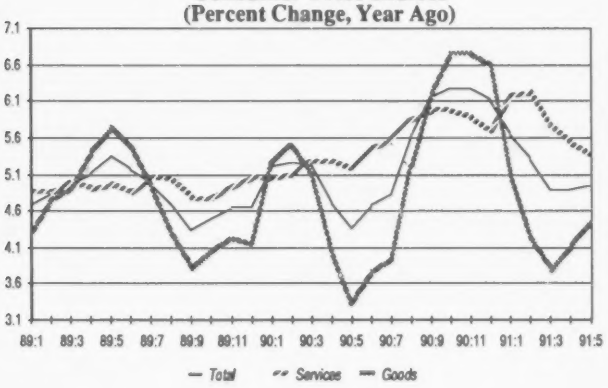
Chart 7
Real Personal Consumption Expenditures
(Quarterly Percent Change, Annual Rates)



Consumer Spending on Services Higher

Personal consumption expenditures on services increased to an inflation-adjusted 2.1% rate in the first quarter of 1991, compared to a 1.8% increase in the previous quarter. Spending on goods declined 5%, pushing total consumer spending down 1.5%. After adjustment for inflation, services outlays for May were up an annualized 11.1%, suggesting that services spending is on an expansion path.

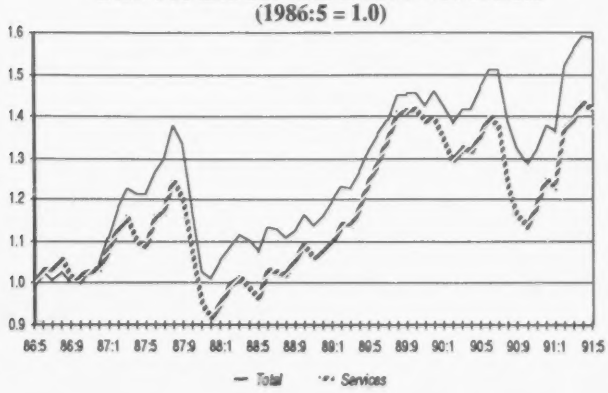
Chart 8
Consumer Price Indices
(Percent Change, Year Ago)



Services Inflation Softening

Over the twelve months ending in June, services inflation slowed to a 5.0% rate, continuing its downward trend from a peak of 6.3% in February. Stable rents and declining or flat transportation services prices were mainly responsible for the improvement, reflecting the weak real estate market and reduced consumer spending on travel. Goods-sector inflation stood at 4.2%, down from 4.4% in May but still lower than a recent high of 5.1% in January. Overall prices were up 4.7%, down from a 5.0% year-over-year increase in the month earlier.

Chart 9
S&P 500 and Services Stock Price Indices
(1986:5 = 1.0)



Services Stock Prices Going Nowhere

The S&P 500 stock price index inched up 0.1% in June, following a 0.4% decline in the previous month. Services stock prices fell 1.3% in May—the latest available month—ending three consecutive months of increases. On a year-over-year basis, the S&P index was up 5%, while the services stock prices index was up 4.4%.

The Services Stock Price Index is based on S&P indices for 13 service industries and is compiled by the Center for International Business Cycle Research.

Table 1
Summary of the Service Economy
(Monthly Indicators)

	1991:1	1991:2	1991:3	1991:4	1991:5	1991:6	1986	1987	1988	1989	1990
Total Employment—											
Millions of Persons	109.4	109.2	108.9	108.7	108.9	108.8	99.5	102.2	105.5	108.3	110.0
Services	85.2	85.1	85.0	84.9	85.0	85.0	75.0	77.5	80.4	83.0	85.0
Goods	24.2	24.0	23.9	23.8	23.8	23.8	24.6	24.7	25.2	25.3	25.0
Total Wages and Salaries—											
Billions of Dollars	2741.0	2741.9	2745.6	2750.2	2765.9	NA	2094.8	2249.7	2431.1	2573.3	2705.3
Services	2024.6	2028.9	2036.2	2039.9	2051.5	NA	1469.2	1599.7	1734.7	1852.7	1976.0
Goods	716.4	713.0	709.4	710.3	714.4	NA	625.6	650.0	696.4	720.6	729.2
Total Compensation											
%Change, Year-Over-Year	4.1	3.4	2.9	2.5	2.6	NA	6.0	7.4	8.1	5.8	5.1
Services	5.7	5.3	5.0	4.2	4.5	NA	7.5	8.9	8.4	6.8	6.7
Goods	-0.2	-1.8	-2.8	-2.1	-2.4	NA	2.7	3.9	7.1	3.5	1.2
Consumer Price Index—All Urban,											
%Change, Year-Over-Year	5.7	5.3	4.9	4.9	5.0	4.7	1.9	3.7	4.1	4.8	5.4
Services	6.2	6.3	5.8	5.5	5.4	5.0	5.0	4.1	4.6	4.9	5.5
Goods	5.1	4.2	3.8	4.1	4.4	4.2	-1.0	3.2	3.5	4.7	5.2
Services Leading Indicator											
Index (%)*	-0.3	2.4	1.7	1.9	3.4	NA	4.9	6.2	1.6	2.9	1.8
Leading Economic Indicator											
Index—Total (%)*	-6.6	-4.0	-2.1	-0.9	0.9	NA	6.6	6.0	1.9	1.5	-0.7
Services Coincident Indicator											
Index (%)*	-0.1	0.1	0.0	-0.6	0.8	NA	3.3	3.6	3.8	2.7	1.9
Service Industries Stock Price											
Index	106.2	118.4	120.4	124.1	122.5	NA	86.3	95.6	88.3	111.5	110.7
S&P 500 Stock Price Index	325.5	362.3	372.3	379.7	378.0	378.3	236.3	286.8	265.8	322.8	334.6

** Growth rate expressed in six-month smoothed percent changes at annual rate.*

Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Center for International Business Cycle Research and The Boston Company Economic Advisors, Inc.

Table 2
Summary of the Service Economy
(Percent Change, SAAR, Except Where Indicated)

	1989:4	1990:1	1990:2	1990:3	1990:4	1991:1	1986	1987	1988	1989	1990
Gross National Product	0.3	1.7	0.4	1.4	-1.6	-2.8	2.7	3.4	4.5	2.5	1.0
Services	3.4	0.8	1.8	3.1	2.8	2.5	3.2	3.4	4.0	2.4	2.4
Goods and Construction	-2.3	2.5	-0.8	0.1	-5.4	-7.4	2.3	3.4	4.8	2.6	-0.3
Construction	0.7	12.5	-10.4	-8.4	-12.0	-19.1	1.5	-0.7	-0.7	-2.2	-1.6
GNP—Product Measure	—	—	—	—	—	—	3.2	3.5	4.5	NA	NA
Services	—	—	—	—	—	—	3.9	3.6	3.9	NA	NA
Goods	—	—	—	—	—	—	1.9	3.3	5.7	NA	NA
Manufacturing	—	—	—	—	—	—	3.1	5.8	9.2	NA	NA
Agri./Mining/Construction	—	—	—	—	—	—	1.3	-0.3	-1.6	NA	NA
Consumption Expenditures	-0.8	1.1	0.2	2.7	-3.4	-1.5	3.9	2.8	3.6	1.9	0.9
Services	3.1	0.1	5.1	3.0	1.8	2.1	2.7	4.0	3.8	2.3	2.6
Goods	-4.4	2.1	-4.4	2.4	-8.4	-5.0	5.0	1.7	3.4	1.5	-0.7
Plant and Equipment Expenditures—											
Current Dollars	-15.5	10.3	2.3	-0.5	-4.3	4.8	-2.4	2.5	11.0	12.9	3.9
Services	-1.7	17.6	-1.2	-0.1	-1.9	8.2	3.4	2.9	8.3	11.3	5.2
Goods	-32.7	-0.6	8.3	-1.0	-8.1	-0.5	-11.1	1.7	15.7	15.6	1.9
Corporate Profits—Current Dollars											
%Change, Year-Over-Year	-26.7	28.7	33.2	-13.4	-27.7	-1.6	2.0	11.9	12.9	-4.6	1.3
Services	-4.3	25.3	19.9	2.2	-1.9	14.4	21.5	-2.9	6.2	-0.6	6.1
Goods	-50.7	34.3	56.7	-33.0	-58.7	-29.0	-25.4	45.7	22.8	-9.7	-7.6

Sources: Bureau of Economic Analysis, Bureau of Labor Statistics and The Boston Company Economic Advisors, Inc.

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